



What you should know about Financing Energy Efficiency Upgrades

Neil Zobler, President
Catalyst Financial Group, Inc.
In Support of EPA's ENERGY STAR® Program
2016

Learning Objectives

In this session you will become familiar with **EPA ENERGY STAR®'s Cash Flow Opportunity Calculator** in addition to:

- Basic accounting considerations when structuring financing
- How most financial institutions segment the market
- Financing Agreements vs. Collection Vehicles
- Common Energy Savings Performance Contracts
- Commercial and Tax-Exempt Financing Options
- ENERGY STAR financing tools and resources
- A Word about:
 - PACE, OBR/OBF, Green Banks
- Finding money for your project

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 85% 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



ENERGY STAR Partnership

- **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 others about energy efficiency
- More information at <http://www.energystar.gov/buildings/about-us/become-energy-star-partner/online-partnership-agreement>





A Distinction

- Financing Agreements
 - Loans
 - Leases
 - Taxable
 - Tax-Exempt
 - Bonds
 - Energy Service Performance Contracts
 - Etc.
- Collection Vehicles
 - Direct Billing
 - On-Bill Financing (OBF)
 - On-Bill Recovery (OBR)
 - PACE



Accounting 101

Capital Budget (Debt)

- **Payments beyond 12 months**
 - What is the approval process?
 - Ceiling on capital expenses?
 - Impact on credit rating



Accounting 101

Capital Budget (Debt)

- **Payments beyond 12 months**
 - What is the approval process?
 - Ceiling on capital expenses?
 - Impact on credit rating

Operating Budget (Expense)

- **Payments within Operating Period (12 months)**
 - Already in utility payments
 - Easier approval process
 - Energy efficiency projects may provide access to captive funds for other needs

Public, private, and non-profit sector organizations face different challenges



Lender's View of Market Sectors

- Residential (Consumer)
- Commercial and Industrial (Taxable)
- Municipal (Tax Exempt)
 - MUSH
- Federal
 - Termination for Convenience

Energy Savings Performance Contracts





What is an Energy Savings Performance Contract (ESPC)?

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**. A typical ESPC project is delivered by an Energy Service Company (ESCO) and consists of the following elements:

- Turnkey Service
- Comprehensive Measures
- Project Financing
- Project Savings Guarantee



Components of an Energy Savings Performance Contract

Related but Independent Documents

- Project Development Agreement
- Energy Services Agreement
- Finance Agreement



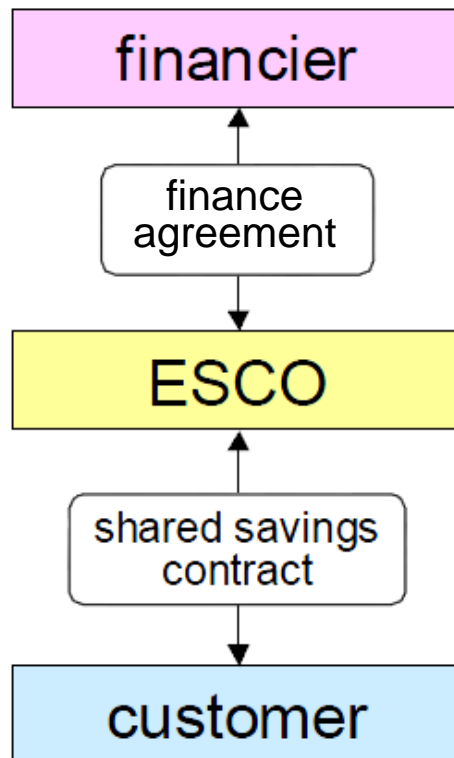
Components of an Energy Savings Performance Contract

Related but Independent Documents

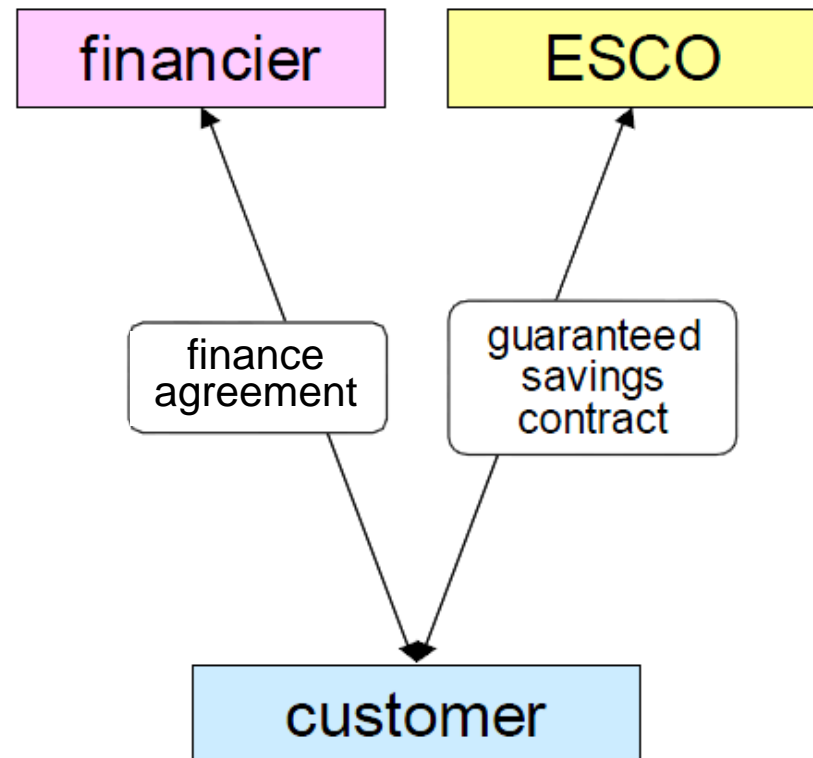
- Project Development Agreement
- Energy Services Agreement
- **Finance Agreement**

Two Common ESPCs

Shared Savings

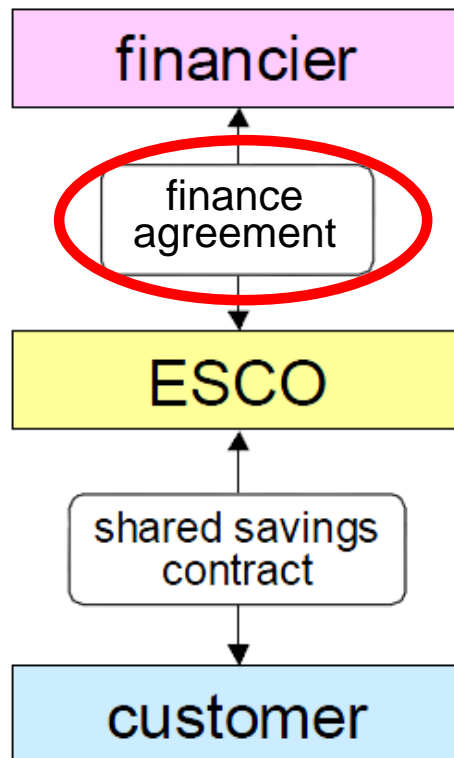


Guaranteed Savings



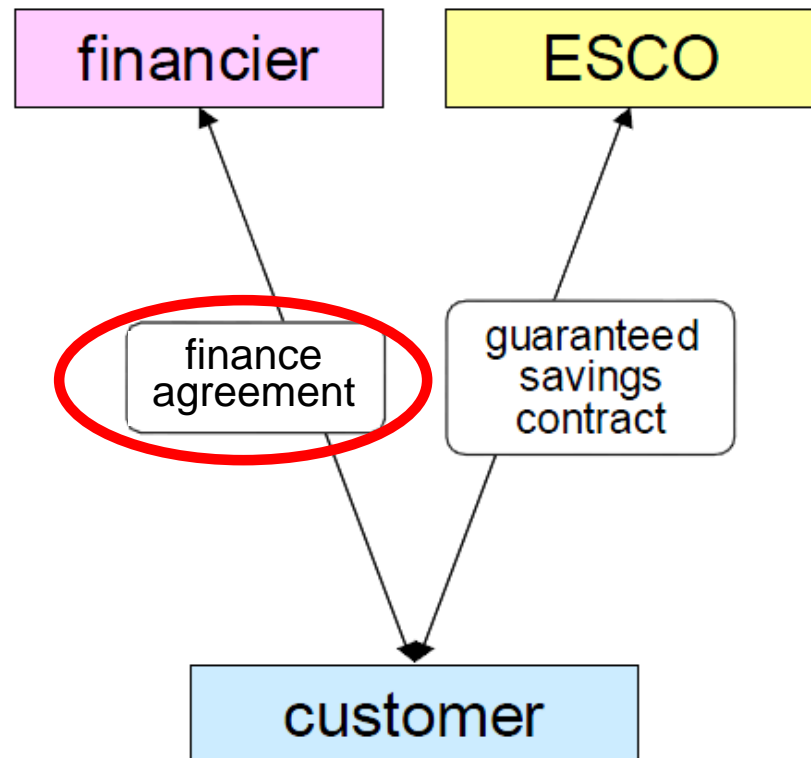
Two Common ESPCs

Shared Savings



Less Common

Guaranteed Savings



More Common



Other ESPC structures

- **Managed Energy Savings Agreement (MESA)**
 - Developer pays the building owner's on-going utility bill directly, pays for upgrades, and charges the building owner a fixed monthly fee.
- **Efficiency-Services Agreement (ESA)**
 - Equipment owned by the energy-efficiency company and not the host. Host continues to pay the utility bills and pays the energy-efficiency company a portion of the realized savings.



Does your organization need an ESCO?

- Need help identifying potential projects?
- Need help implementing projects?
- Lack available and/or experienced staff to maintain the equipment?
- Need performance guarantees to obtain approval?
- Need help identifying and implementing Monitoring & Verification protocols?
- Have ready access to the funds needed to implement the project?

Financial Products: Loans





Loan Primer

- Common Features
 - Interest Rates Vary
 - Term
 - Type
 - Secured or unsecured
 - Size
 - Risk
 - Bank Loans Often:
 - Require Compensating Balances
 - Have Restrictive Covenants
 - i.e., maintain performance ratios, limit asset sales, etc.

Financial Products: Commercial Leases





Why do Customers Lease?

- Effective Tax Strategy
 - Avoid Depreciation
 - Section 179 Deduction reduced in 2015 to from \$500k to \$25k
- Effective financing strategy
 - May avoid debt coverage ratio issues
 - Off balance sheet treatment currently under review (FASB)
 - Allow third party to monetize tax credits and/or depreciation
- Facilitates creative “structuring”
 - Skip Payments
 - Step Payments
 - Arrears or Advance Payment
- Flexible!



Topic 842 - FASB's Dual Approach to Leasing

- **TYPE A lease** (old "Capital Lease")
 - Longer than 12 months
 - Installment purchase by the lessee
 - List payment in two categories:
 - Right-of-use (ROU)
 - Interest
 - **TYPE B lease** (old "Operating Lease")
 - Recognize a single total lease expense
-

GASB (governments) reconsidering classification

Financial Products: Tax Exempt Financing





Taxable vs. Tax Exempt

- Tax exempt = lower interest
 - No Federal Income tax on interest earned
- Public Sector can issue tax exempt (IRS)
 - Eminent Domain
 - Taxing Powers
 - Police Powers
- Private Sector & Large Non-profits must go through Conduit Agency to issue tax exempt
- Public sector does not pay taxes
 - Can't use tax incentives or strategies



Tax Exempt Financing Examples

- **Short Term** (less than 12 months)
 - *Not usually relevant when dealing with EE projects*
- **Long Term** (greater than 12 months)
 - Bonds
 - Revenue Bonds
 - General Obligation Bonds
 - Many hybrids
 - Tax Exempt Lease Purchase Agreements
 - Certificates of Participation (COPS)
 - Master Leases



Benefits of Tax-Exempt Lease-Purchase Agreements

- **Title** to the Equipment Rests with Lessee
- Access to Low Cost, ***Tax-Exempt Funds***
- Payments may be Subject to ***Annual Appropriation of Funds*** by Lessee
- Accommodates *Construction Financing*
- Payments *in arrears*
- True Interest Cost (TIC) often less than bonds
- Faster closing
- Master Lease accommodates a variety of assets

Mixed Financing

Think about combining:

- Grants
- Low Interest Loans
- Lease Financing
- Capital Contributions
- Etc.



Photo credit: play.google.com

It's OK!



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



Financial Value Tools

- Building Upgrade Value Calculator – Commercial Real Estate

Building Upgrade Value Calculator
For Office Properties
Version 1.0

[Use Sample Data](#)
[Glossary](#)
[Print](#)

The Building Upgrade Value Calculator allows practitioners to analyze the financial value of capital investments in energy efficiency measures in commercial real estate. Enter the inputs below and select the "Calculate" button to determine the investment's financial and energy benefits. This tool presents the results in two ways: a printable report that summarizes the financial and energy results, and a letter that you can modify and use to make a compelling business case to fund the investment.

Property Information

Property Name: Sample Office Building
 Square Footage: 500,000
 Annual Utility Bill: \$1,050,000

Financial Information

Analysis Term (years): 10
 Discount Rate: 8%
 Capitalization Rate: 8%

If Financing:
 Loan Period (in years): 5
 Number of Loan Payments (per year): 12
 Interest Rate: 8%

[Calculate](#) [Clear](#)

Energy Project Information

Measure	Cost	Annual Savings
Variable speed drive on pumps & cooling towers	\$202,850	\$185,200
Garage lighting retrofit	\$27,772	\$30,400
Electronic ballasts & T8's	\$123,050	\$162,600
VFD's on supply fans	\$128,800	\$175,500
1000 surge protectors with motion sensors	\$32,750	\$21,000
Sub Total	\$525,222	\$474,700

Additional Annual Savings for Labor and Supplies: \$5,000

ENERGY STAR Rating: 55

Rebates (if any): \$25,000

Financial Value Tools

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

Building Upgrade Value Calculator
For Office Properties
Version 1.0

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1000 surge protectors with motion sensors	\$32,750	\$21,000
Sub Total	\$573,222	\$474,500

Additional Annual Savings for Labor and Supplies: \$5,000

ENERGY STAR Rating: 55

Rebates (if any): \$50,000

Using Benchmark Results from EPA's Portfolio Manager - DATA ENTRY TABLE

Name: Sample Facility Data Set

Select type of analysis: Using Benchmark Results from EPA's Portfolio Manager

Values: Sample Values

Using Benchmark Results from EPA's Portfolio Manager	SF	Annual energy costs (\$) - all fuel types	\$/SF	Savings target (%)	Potential annual savings
75 or better	200,000	\$150,000	\$0.75	10.00	\$15,000
between 50 and 74	350,000	\$400,000	\$1.14	20.00	\$80,000
between 25 and 49	300,000	\$500,000	\$1.67	30.00	\$150,000
below 25	150,000	\$450,000	\$3.00	40.00	\$180,000

Total SF	Total energy costs (\$) - all fuel types	\$/SF	Weighted savings target (%)	Total potential annual savings (\$)
1,000,000	\$1,500,000	\$1.50	28.33%	\$425,000

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.

Quantifying the COST OF DELAY





What Does it 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



CASH FLOW OPPORTUNITY CALCULATOR

Version 2.2 - May 2012

Please send any comments to Katy Hatcher, ENERGY STAR National Manager Hatcher.Caterina@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.

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Energy Efficiency: A Cash Flow Opportunity



*Don't forget to enable
the Macros*



CASH FLOW OPPORTUNITY CALCULATOR

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“Data Entry” Tab



HELP

User Generated Categories - DATA ENTRY TABLE

Name **Example organization with multiple facilities**

Select type of analysis User Generated Categories

Values Sample Values

User Generated Categories	SF	Annual energy costs (\$) - all fuel types	\$/SF	Savings target (%)	Potential annual 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 (\$)

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 **Click Here**

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“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	Annual energy costs (\$) - all fuel types	\$/SF	Savings target (%)	Potential annual savings
Enter Category Name Here	0	\$0		0.00	
Enter Category Name Here	0	\$0		0.00	
Total energy costs (\$) - all fuel types					
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“Data Entry” Tab


[HELP](#)

User Generated Categories - DATA ENTRY TABLE

Name **YourTown, USA School District**

Select type of analysis User Generated Categories

Values


User Generated Categories	SF	Annual energy costs (\$) - all fuel types	\$/SF	Savings target (%)	Potential annual savings
High School #1	350,000	\$1,000,000	\$2.86	25.00	\$250,000
Middle School #3	200,000	\$525,000	\$2.63	20.00	\$105,000
	Total SF	Total energy costs (\$) - all fuel types	\$/SF	Weighted savings target (%)	Total potential annual savings (\$)
	550,000	\$1,525,000	\$2.77	23.28%	\$355,000

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

“Investment Values” Tab

INVESTMENT OPPORTUNITY



[HELP](#)
[SAMPLE VALUES](#)

Potential Annual Savings = Cash Flow Opportunity			
	More efficient facility(s)	Less efficient facility(s)	Totals
Annual energy costs	\$1,000,000	\$525,000	\$1,525,000
Potential annual savings	\$250,000	\$105,000	\$355,000

What Can \$355,000.00 of Annual Savings Buy?

Assuming an interest rate of

5.00

%

Assuming a term of

7

Year(s)


Savings used to pay energy/retrofit investments

90.0

%

Calculate

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



Project Cost

\$0

%110 of funds taken from operating funds entered automatically as an example. If desired, any rebate amount can be included in this cost.

Additional Funding Required

\$0

Contribution that your operating budget can make towards energy improvements

\$0.000

Simple Payback


Year(s)

Month(s)

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

[Important Notice](#)

“Investment Values” Tab



[HELP](#)
[SAMPLE VALUES](#)

INVESTMENT OPPORTUNITY

ENERGY STAR

Potential Annual Savings = Cash Flow Opportunity

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Assuming a term of
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7	Year(s)
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Taken from operating funds, these savings could finance energy/retrofit projects equal to



Project Cost

Additional Funding Required

Contribution that your operating budget can make towards energy improvements

Simple Payback

	\$0	
	\$0	
	\$0.000	
		Year(s)
		Month(s)

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


%110 of funds taken from operating funds entered automatically as an example. If desired, any rebate amount can be included in this cost.

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

[Important Notice](#)

“Investment Values” Tab

INVESTMENT OPPORTUNITY



[HELP](#)
[SAMPLE VALUES](#)


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Potential annual savings	\$250,000	\$105,000	\$355,000

What Can \$355,000.00 of Annual Savings Buy?

Assuming an interest rate of	5.00	%
Assuming a term of	7	Year(s)
Savings used to pay energy/retrofit investments	90.0	%

Calculate

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



Project Cost

\$0

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

%110 of funds taken from operating funds entered automatically as an example. If desired, any rebate amount can be included in this cost.

Additional Funding Required	\$0
Contribution that your operating budget can make towards energy improvements	\$0.000
Simple Payback	


Year(s)

Month(s)

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

[Important Notice](#)

“Investment Values” Tab



[HELP](#)
[SAMPLE VALUES](#)

INVESTMENT OPPORTUNITY

ENERGY STAR

Potential Annual Savings = Cash Flow Opportunity

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What Can \$355,000.00 of Annual Savings Buy?

Assuming an interest rate of

5.00

%

Assuming a term of

7

Year(s)

Savings used to pay energy/retrofit investments

90.0

%

Reset

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

\$1,883,800

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

Project Cost

\$2,072,180

%110 of funds taken from operating funds entered automatically as an example. If desired, any rebate amount can be included in this cost.

Additional Funding Required

\$188,380

Contribution that your operating budget can make towards energy improvements

\$9.419

/SF

Simple Payback

5

Year(s)

Month(s)

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

[Important Notice](#)

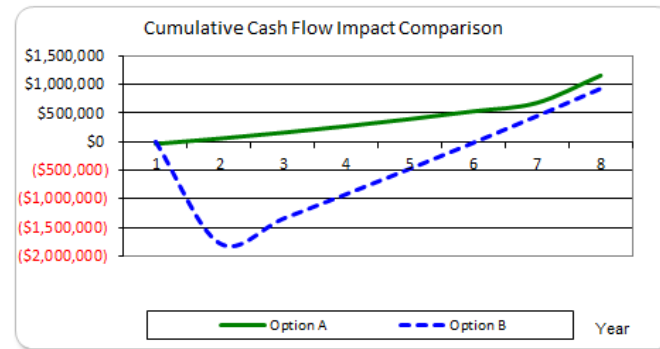
“Cash Flow” Tab



HELP SAMPLE
VALUES

COST OF DELAY and CASH FLOW ANALYSIS

Amount Financed	1,883,800	\$
Simple payback	5	years
	0	month(s)
Interest rate	5.00	%
Financing term	7	years
Year(s) postponed	1	years
Project cost increase due to postponement	5.00	%
Estimated energy cost change in year 2	10.00	%
Annual change in energy costs after year 2	2.50	%
Estimated energy savings in year 1	75.00	%



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)**

\$857,589

\$455,734

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

Fast Track Financing generates \$401,855 or 88% 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	\$281,176	(\$319,505)	(\$38,329)	(\$38,329)	\$0	\$0	\$0	\$0
2	\$412,391	(\$319,505)	\$92,886	\$54,556	\$309,294	(\$2,082,990)	(\$1,773,696)	(\$1,773,696)
3	\$422,701	(\$319,505)	\$103,196	\$157,752	\$422,701	\$0	\$422,701	(\$1,350,995)
4	\$433,269	(\$319,505)	\$113,763	\$271,516	\$433,269	\$0	\$433,269	(\$917,726)
5	\$444,101	(\$319,505)	\$124,595	\$396,111	\$444,101	\$0	\$444,101	(\$473,626)
6	\$455,203	(\$319,505)	\$135,698	\$531,808	\$455,203	\$0	\$455,203	(\$18,423)
7	\$466,583	(\$319,505)	\$147,078	\$678,886	\$466,583	\$0	\$466,583	\$448,160
8	\$478,248	\$0	\$478,248	\$1,157,133	\$478,248	\$0	\$478,248	\$926,408

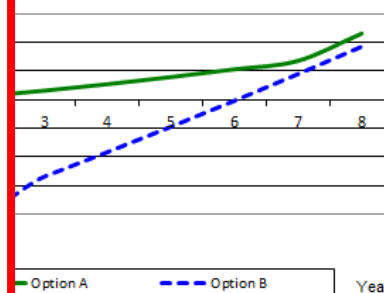
Important Notice

“Cash Flow” Tab

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Estimated energy cost change in year 2	10.00	%
Annual change in energy costs after year 2	2.50	%
Estimated energy savings in year 1	75.00	%

OF DELAY and CASH FLOW ANALYSIS

Cash Flow Impact Comparison



sis.
ted in cell G7 - financing paid monthly in arrears.

5,734 **Net Present Value of Option B**
(Waiting for Cash)

Fast Track Financing generates \$401,855 or 88% more cash than waiting!

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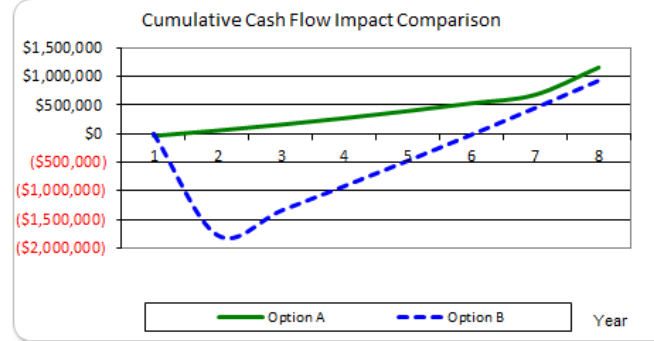
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HELP SAMPLE
VALUES

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Project cost increase due to postponement	5.00	%
Estimated energy cost change in year 2	10.00	%
Annual change in energy costs after year 2	2.50	%
Estimated energy savings in year 1	75.00	%



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)**

\$857,589

\$455,734

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

Fast Track Financing generates \$401,855 or 88% 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	\$281,176	(\$319,505)	(\$38,329)	(\$38,329)	\$0	\$0	\$0	\$0
2	\$412,391	(\$319,505)	\$92,886	\$54,556	\$309,294	(\$2,082,990)	(\$1,773,696)	(\$1,773,696)
3	\$422,701	(\$319,505)	\$103,196	\$157,752	\$422,701	\$0	\$422,701	(\$1,350,995)
4	\$433,269	(\$319,505)	\$113,763	\$271,516	\$433,269	\$0	\$433,269	(\$917,726)
5	\$444,101	(\$319,505)	\$124,595	\$396,111	\$444,101	\$0	\$444,101	(\$473,626)
6	\$455,203	(\$319,505)	\$135,698	\$531,808	\$455,203	\$0	\$455,203	(\$18,423)
7	\$466,583	(\$319,505)	\$147,078	\$678,886	\$466,583	\$0	\$466,583	\$448,160
8	\$478,248	\$0	\$478,248	\$1,157,133	\$478,248	\$0	\$478,248	\$926,408

Important Notice

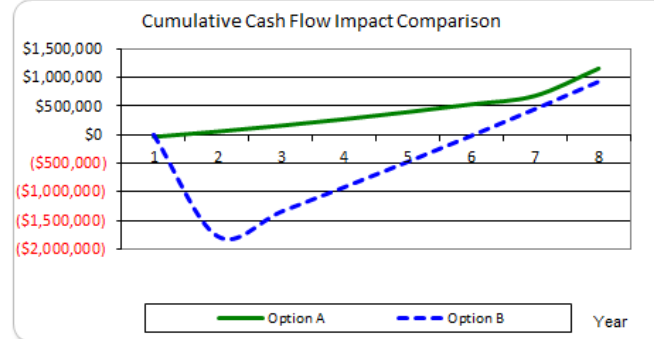
“Cash Flow” Tab



HELP SAMPLE VALUES

COST OF DELAY and CASH FLOW ANALYSIS

Amount Financed	1,883,800	\$
Simple payback	5	years
	0	month(s)
Interest rate	5.00	%
Financing term	7	years
Year(s) postponed	1	years
Project cost increase due to postponement	5.00	%
Estimated energy cost change in year 2	10.00	%
Annual change in energy costs after year 2	2.50	%
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8	\$478,248	\$0	\$478,248	\$1,157,133

Net Present Value of Option B (Waiting for Cash)

Waiting!

Waiting for Cash)	
Annual Cash Flow	Cumulative Cash Flow
\$0	\$0
(\$1,773,696)	(\$1,773,696)
\$422,701	(\$1,350,995)
\$433,269	(\$917,726)
\$444,101	(\$473,626)
\$455,203	(\$18,423)
\$466,583	\$448,160
\$478,248	\$926,408

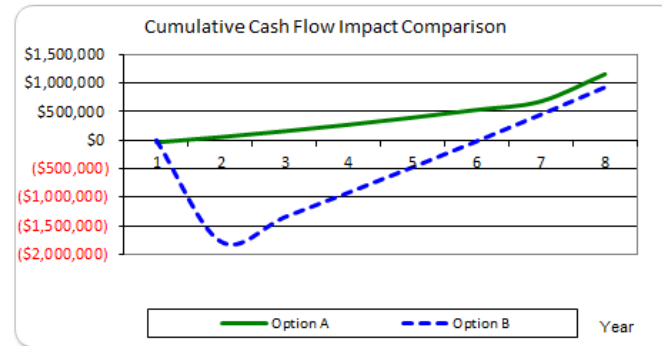
"Cash Flow" Tab



HELP
SAMPLE
VALUES

COST OF DELAY and CASH FLOW ANALYSIS

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	0	month(s)
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8	\$478,248	\$0	\$478,248	\$1,157,133	\$478,248	\$0	\$478,248	\$926,408

Important Notice

“Interest Rate” Tab

COST OF DELAY - Comparative Interest Rate Analysis			
 <div> <div>HELP</div> <div>SAMPLE VALUES</div> </div>	Interest rate of higher financing	5.00	%
	Interest rate of a lower financing	4.00	%
	Cost of the equipment	\$3,350,000	
	Simple payback	8	year(s)
		11	month(s)
	Potential annual savings	\$377,097	
	Term of financing	12	year(s)
	Lower interest rate savings*	\$188,900	
	Amount lost in utility bills	\$31,400	/month
	Break-Even Point	6.0	month(s)
Month	Balance at beginning of month	Amount lost in monthly utility bills	Balance at end of month
1	\$188,900	\$31,400	\$157,400
2	\$157,400	\$31,400	\$126,000
3	\$126,000	\$31,400	\$94,600
4	\$94,600	\$31,400	\$63,200
5	\$63,200	\$31,400	\$31,700
6	\$31,700	\$31,400	\$300
7	\$300	\$31,400	(\$31,100)
8	(\$31,100)	\$31,400	(\$62,500)
9	(\$62,500)	\$31,400	(\$94,000)
10	(\$94,000)	\$31,400	(\$125,400)
11	(\$125,400)	\$31,400	(\$156,800)
12	(\$156,800)	\$31,400	(\$188,200)

*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.

[Important Notice](#)


“Interest Rate” Tab

COST OF DELAY - Comparative Interest Rate Analysis			
Interest rate of higher financing	5.00	%	
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“Interest Rate” Tab



HELP

SAMPLE
VALUES

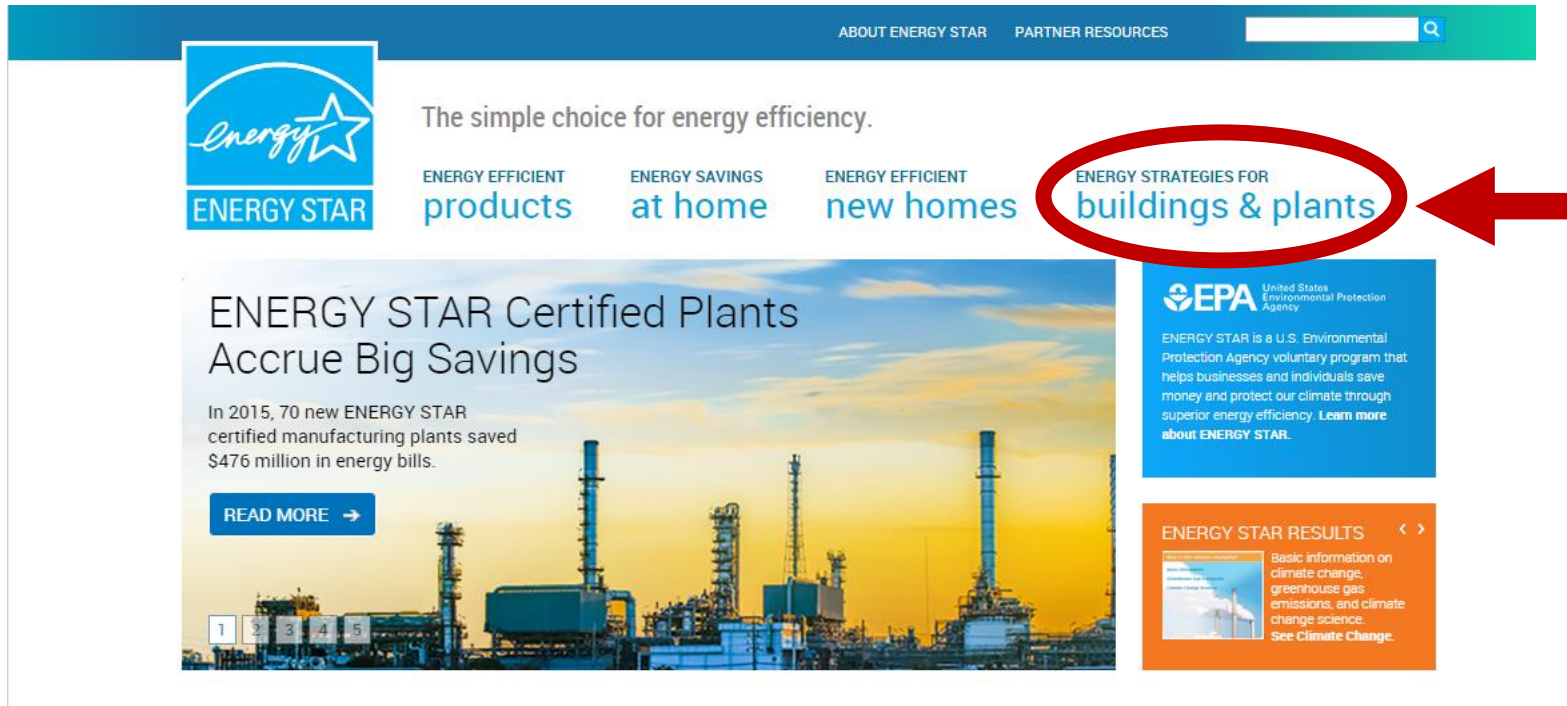
COST OF DELAY - Comparative Interest Rate Analysis

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Cash Flow Opportunity Calculator



The screenshot shows the Energy Star website interface. At the top, there is a navigation bar with links for "ABOUT ENERGY STAR" and "PARTNER RESOURCES", and a search bar. Below the navigation bar, the Energy Star logo is displayed on the left, followed by the tagline "The simple choice for energy efficiency." To the right of the tagline are four menu items: "ENERGY EFFICIENT products", "ENERGY SAVINGS at home", "ENERGY EFFICIENT new homes", and "ENERGY STRATEGIES FOR buildings & plants". The last item is circled in red with a red arrow pointing to it. Below the menu items, there is a large banner for "ENERGY STAR Certified Plants Accrue Big Savings" with a "READ MORE" button. To the right of the banner is a blue box with the EPA logo and text about the Energy Star program. Below that is an orange box titled "ENERGY STAR RESULTS" with a "See Climate Change" link.

ABOUT ENERGY STAR PARTNER RESOURCES

ENERGY STAR

The simple choice for energy efficiency.

ENERGY EFFICIENT products ENERGY SAVINGS at home ENERGY EFFICIENT new homes ENERGY STRATEGIES FOR buildings & plants

ENERGY STAR Certified Plants Accrue Big Savings

In 2015, 70 new ENERGY STAR certified manufacturing plants saved \$476 million in energy bills.

READ MORE →

EPA United States Environmental Protection Agency

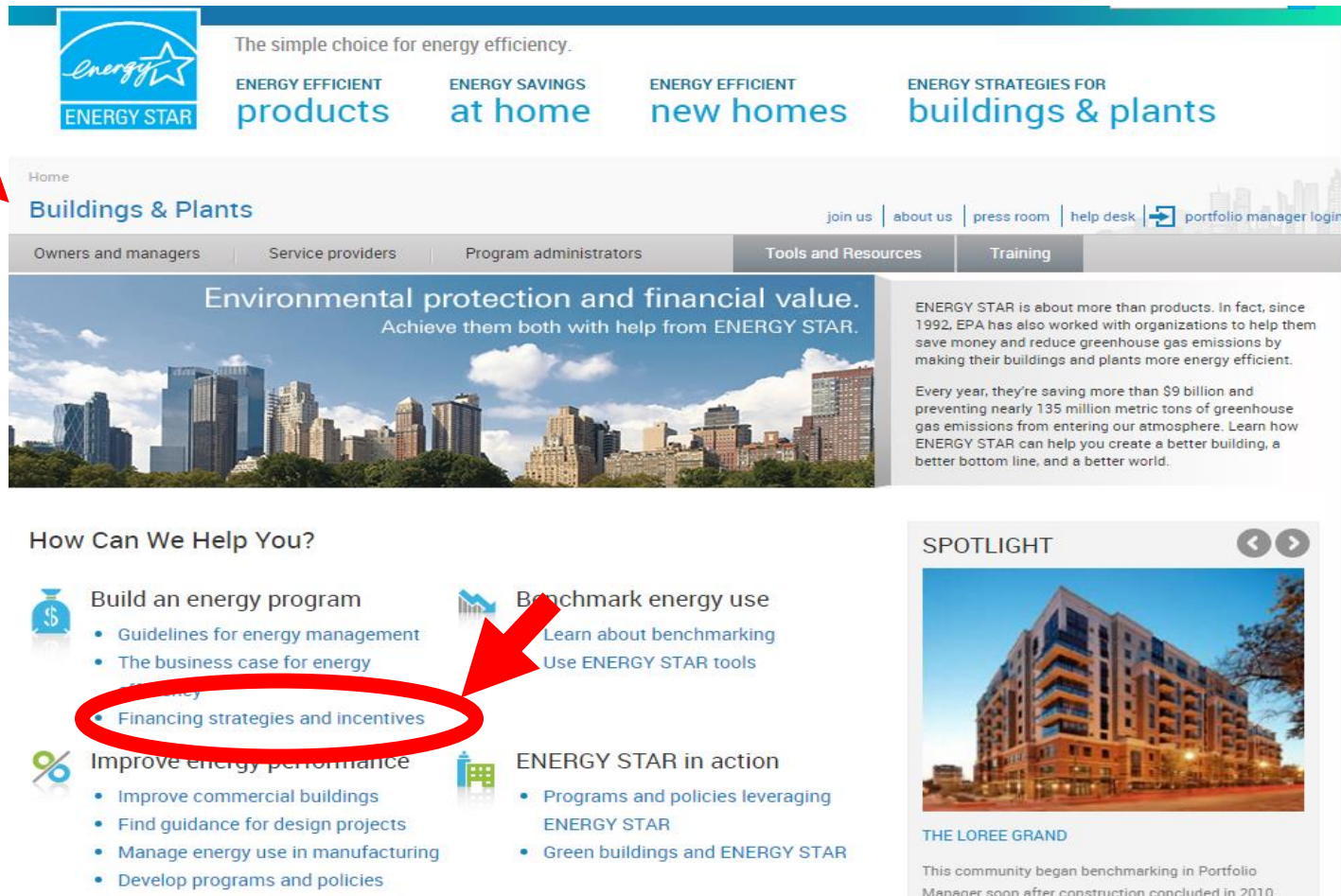
ENERGY STAR is a U.S. Environmental Protection Agency voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency. [Learn more about ENERGY STAR.](#)

ENERGY STAR RESULTS < >

Basic information on climate change, greenhouse gas emissions, and climate change science. [See Climate Change.](#)

www.energystar.gov

Cash Flow Opportunity Calculator



Home

Buildings & Plants

join us | about us | press room | help desk | portfolio manager login





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

Environmental protection and financial value.
Achieve them both with help from ENERGY STAR.


ENERGY STAR is about more than products. In fact, since 1992, EPA has also worked with organizations to help them save money and reduce greenhouse gas emissions by making their buildings and plants more energy efficient.

Every year, they're saving more than \$9 billion and preventing nearly 135 million metric tons of greenhouse gas emissions from entering our atmosphere. Learn how ENERGY STAR can help you create a better building, a better bottom line, and a better world.

How Can We Help You?

-  **Build an energy program**
 - Guidelines for energy management
 - The business case for energy
 - Financing strategies and incentives**
-  **Benchmark energy use**
 - Learn about benchmarking
 - Use ENERGY STAR tools
-  **Improve energy performance**
 - Improve commercial buildings
 - Find guidance for design projects
 - Manage energy use in manufacturing
 - Develop programs and policies
-  **ENERGY STAR in action**
 - Programs and policies leveraging ENERGY STAR
 - Green buildings and ENERGY STAR

SPOTLIGHT

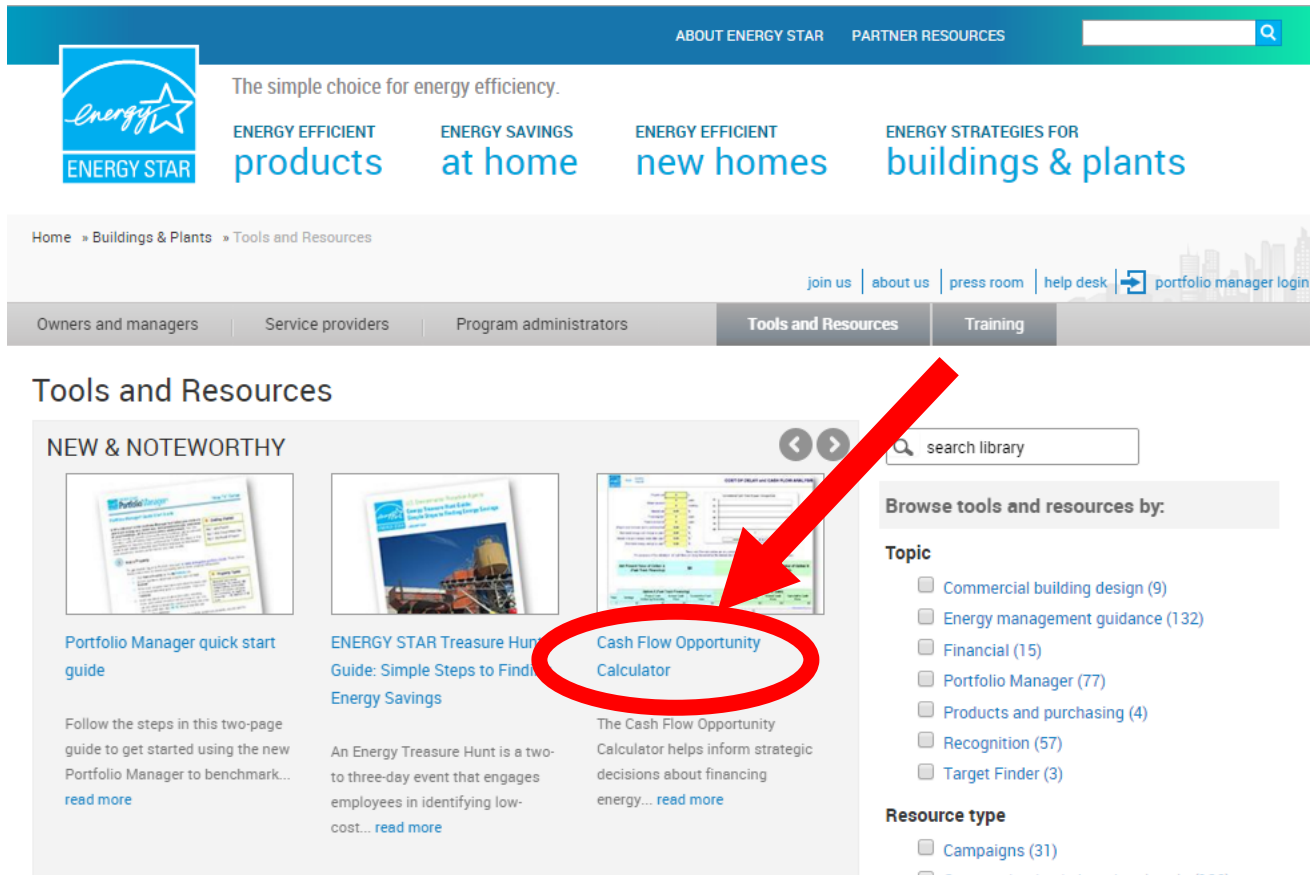


THE LOREE GRAND

This community began benchmarking in Portfolio Manager soon after construction concluded in 2010.

Download at: <http://www.energystar.gov/buildings/tools-and-resources/financial-resources>

Cash Flow Opportunity Calculator



The screenshot shows the Energy Star website interface. At the top, there's a blue header with the Energy Star logo and the tagline "The simple choice for energy efficiency." Below this, there are navigation links: "ABOUT ENERGY STAR" and "PARTNER RESOURCES". A search bar is also present. The main navigation bar includes links for "ENERGY EFFICIENT products", "ENERGY SAVINGS at home", "ENERGY EFFICIENT new homes", and "ENERGY STRATEGIES FOR buildings & plants". The breadcrumb trail indicates the current location: "Home » Buildings & Plants » Tools and Resources". A secondary navigation bar includes links for "join us", "about us", "press room", "help desk", and "portfolio manager login". Below this, there are tabs for "Owners and managers", "Service providers", "Program administrators", "Tools and Resources" (which is active), and "Training". The "Tools and Resources" section is titled "Tools and Resources" and features a "NEW & NOTEWORTHY" section. This section displays three featured tools: "Portfolio Manager quick start guide", "ENERGY STAR Treasure Hunt Guide: Simple Steps to Find Energy Savings", and "Cash Flow Opportunity Calculator". The "Cash Flow Opportunity Calculator" is highlighted with a red circle and a red arrow pointing to it. To the right of the featured tools, there is a "search library" input field and a "Browse tools and resources by:" section. This section includes two categories: "Topic" and "Resource type". Under "Topic", there are checkboxes for "Commercial building design (9)", "Energy management guidance (132)", "Financial (15)", "Portfolio Manager (77)", "Products and purchasing (4)", "Recognition (57)", and "Target Finder (3)". Under "Resource type", there are checkboxes for "Campaigns (31)", "Communication/educational tools (120)", and "Research and reports (20)".

Home » Buildings & Plants » Tools and Resources

join us | about us | press room | help desk | portfolio manager login

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

Tools and Resources

NEW & NOTEWORTHY

Portfolio Manager quick start guide

Follow the steps in this two-page guide to get started using the new Portfolio Manager to benchmark... [read more](#)

ENERGY STAR Treasure Hunt Guide: Simple Steps to Find Energy Savings

An Energy Treasure Hunt is a two-to three-day event that engages employees in identifying low-cost... [read more](#)

Cash Flow Opportunity Calculator

The Cash Flow Opportunity Calculator helps inform strategic decisions about financing energy... [read more](#)

search library

Browse tools and resources by:

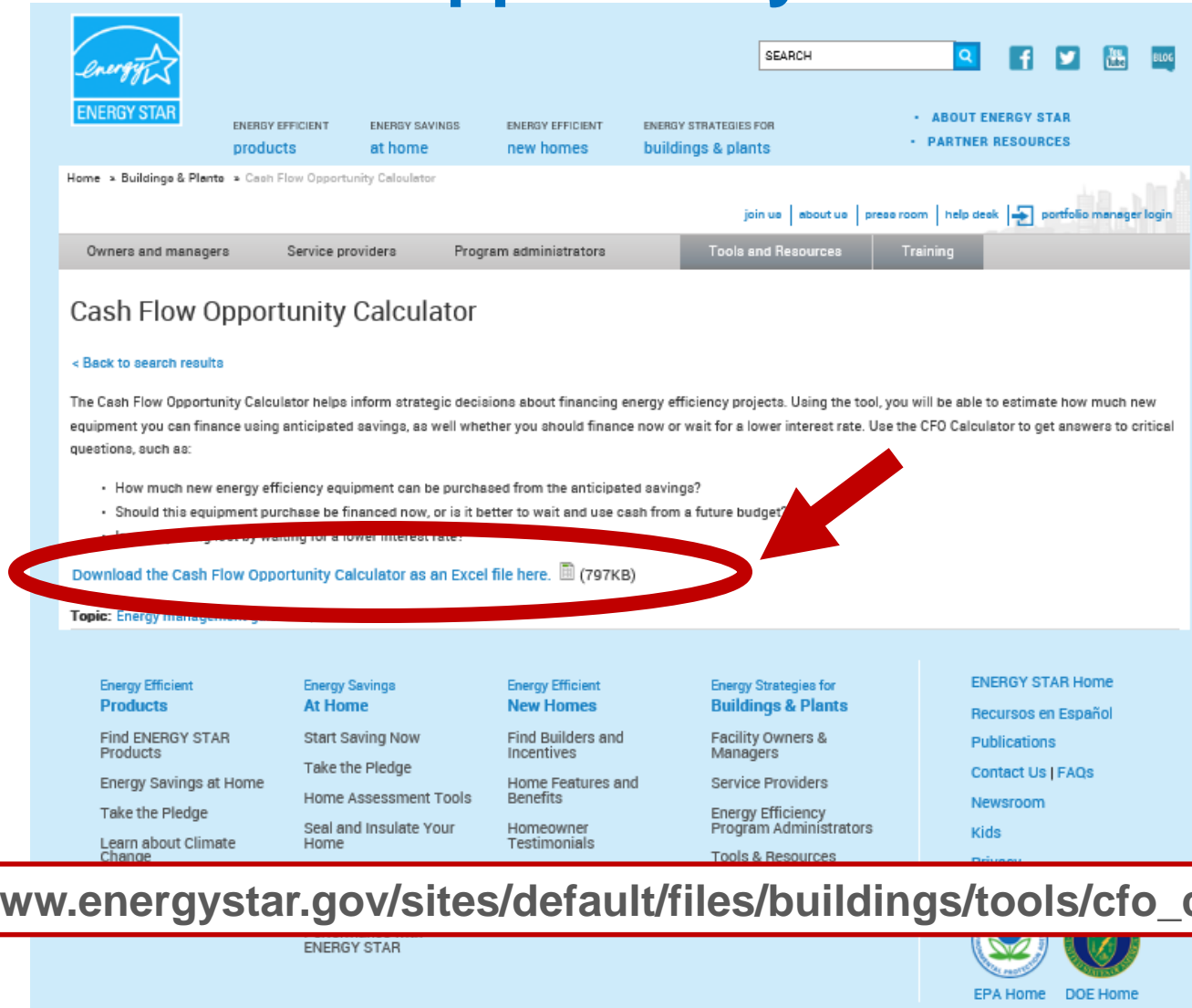
Topic

- ☐ Commercial building design (9)
- ☐ Energy management guidance (132)
- ☐ Financial (15)
- ☐ Portfolio Manager (77)
- ☐ Products and purchasing (4)
- ☐ Recognition (57)
- ☐ Target Finder (3)

Resource type

- ☐ Campaigns (31)
- ☐ Communication/educational tools (120)
- ☐ Research and reports (20)

Cash Flow Opportunity Calculator



The screenshot shows the Energy Star website's "Cash Flow Opportunity Calculator" page. A red circle highlights the link "Download the Cash Flow Opportunity Calculator as an Excel file here. (797KB)", with a red arrow pointing to it. The page includes a search bar, navigation links for "ENERGY EFFICIENT products", "ENERGY SAVINGS at home", "ENERGY EFFICIENT new homes", and "ENERGY STRATEGIES FOR buildings & plants". It also features a breadcrumb trail: "Home > Buildings & Plants > Cash Flow Opportunity Calculator". The main content area explains the calculator's purpose and lists two key questions it addresses. The footer contains various links for "Energy Efficient Products", "Energy Savings At Home", "Energy Efficient New Homes", "Energy Strategies for Buildings & Plants", and "ENERGY STAR Home".

ENERGY STAR

SEARCH

ENERGY EFFICIENT products

ENERGY SAVINGS at home

ENERGY EFFICIENT new homes

ENERGY STRATEGIES FOR buildings & plants

• ABOUT ENERGY STAR

• PARTNER RESOURCES

Home > Buildings & Plants > Cash Flow Opportunity Calculator

join us | about us | press room | help desk | portfolio manager login

Owners and managers

Service providers

Program administrators

Tools and Resources

Training

Cash Flow Opportunity Calculator

< Back to search results

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?

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

Topic: Energy Management

Energy Efficient Products

Find ENERGY STAR Products

Energy Savings at Home

Take the Pledge

Learn about Climate Change

Energy Savings At Home

Start Saving Now

Take the Pledge

Home Assessment Tools

Seal and Insulate Your Home

Energy Efficient New Homes

Find Builders and Incentives

Home Features and Benefits

Homeowner Testimonials

Energy Strategies for Buildings & Plants

Facility Owners & Managers

Service Providers

Energy Efficiency Program Administrators

Tools & Resources

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Kids

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ENERGY STAR

EPA Home

DOE Home

http://www.energystar.gov/sites/default/files/buildings/tools/cfo_calculator.xls

A word about:

- **Property Assessed Clean Energy**
- **On-Bill Recovery/On-Bill Finance**
- **Green Banks**





A Word About PACE

- Property Assessed Clean Energy (PACE)
 - Innovative way to finance energy efficiency and renewable energy upgrades to buildings
 - Can overcome “split incentives” hurdle
 - Interested property owners can receive 100% financing
 - Repaid as a property tax assessment (up to 20 years)
 - Must pay property tax to use (excludes public sector and large non-profits)
 - Technically not a “loan”
 - 31 states and the District of Columbia adopted legislation

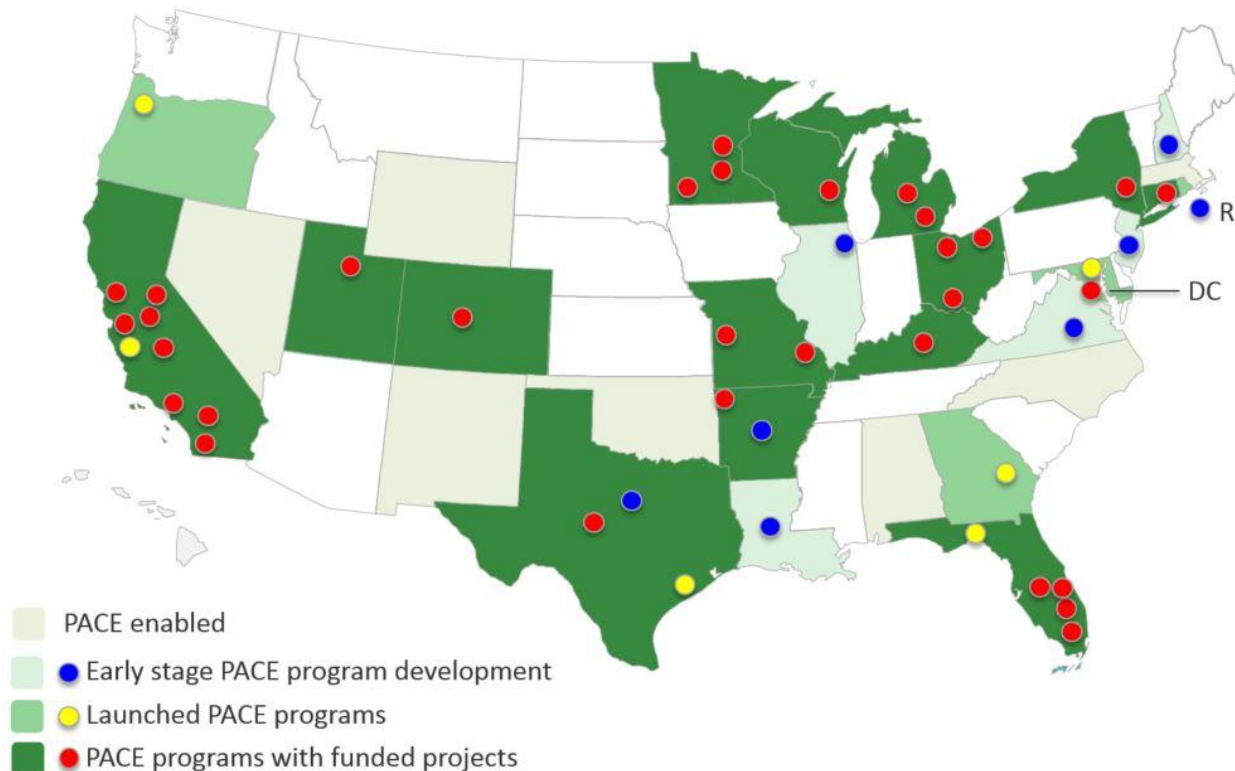


How Does PACE Work?

- A municipal government establishes a type of land or real property secured benefit district
- Property owners *voluntarily* choose to participate
- Contractor assesses the scope of EE improvements
- The municipality provides financing typically by selling bonds secured by payments made from participating property owners
- Participating property owners agree to accept a property tax assessment or charge for up to 20 years

Is PACE Available in your State?

- Commercial and Residential Programs





A Word About OBF and OBR

- On Bill Financing
 - Billing services provided by utility
 - Funds provided by **utility**
- On Bill Recovery
 - Billing services provided by utility
 - Funds provided by **a third party**
- Specifics vary by state & utility
 - Term, bill to meter or owner, etc.



A Word About GREEN BANKS

- A green bank is a **financial organization** that uses strategic **public-private partnerships** to **overcome market barriers** and increase the amount of private capital available to **finance clean energy projects**.



Goal of a GREEN BANK

- Increase investment in clean energy projects in a given geographic area by engaging the private sector
 - **Identify** underserved clean energy lending markets
 - **Partner** with private sector lenders to fill the gap while the private sector works to develop capacity
 - **Transition** financing to private sector as capacity develops

- **Common Barriers to Financing**

- **Transactional Issues (Size, Complexity, Standardization)**
- **Misperception of Risk (New Markets, New Technologies, Lack of Performance History)**
- **Structural Issues (Split Incentives, Timeframe Mismatches)**
- **Expensive Capital (Low Volumes, No Secondary Markets)**

State Campaigns



1. California

2. Colorado

3. Connecticut

4. Hawaii

5. Illinois

6. Kentucky

7. Maryland

8. Massachusetts

9. Minnesota

10. Missouri

11. Nevada

12. New Hampshire

13. New Jersey

14. New York

15. Rhode Island

16. Vermont

17. Washington

Source: <http://www.coalitionforgreencapital.com>

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



Finding Money for your Project

- Different Funders offer different types of financing
 - Tax Exempt (public sector)
 - Taxable (private sector)
- Funder Demographics
 - Large-Ticket (Over \$5 Million)
 - Middle-Ticket (\$250,000 - \$5 Million)
 - Small-Ticket (\$25,000 - \$249,999)
 - Micro-Ticket (Less Than \$25,000)



Finding Money for your Project

- State Specific Programs
- Money Center Banks
- Regional Banks
- Community and Local Banks
 - including S&Ls and Credit Unions
- Independent Commercial Equipment Leasing and Finance Companies
- Bank Owned Leasing Companies
- Captive Financing Companies
- Specialty EE Finance Companies
- Other Non-Traditional Lenders
 - Local or Regional Community Development Corporations
 - Economic Development Corporations
 - Non-Profit Revolving Loan Funds



Questions?

Email: buildings@energystar.gov

Visit: www.energystar.gov

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