



ENERGY STAR®

Calculating the Cost of Delay

An Introduction to the
**Cash Flow Opportunity (CFO)
Calculator**

Presentation Overview



- About ENERGY STAR
- The challenge of energy waste
- CFO Calculator
 - Concepts
 - Operations and results
 - Building energy performance rating
(benchmarking)

What is ENERGY STAR ?



A voluntary partnership between organizations, businesses, consumers, and government, united in the pursuit of a common goal —

What is ENERGY STAR ?

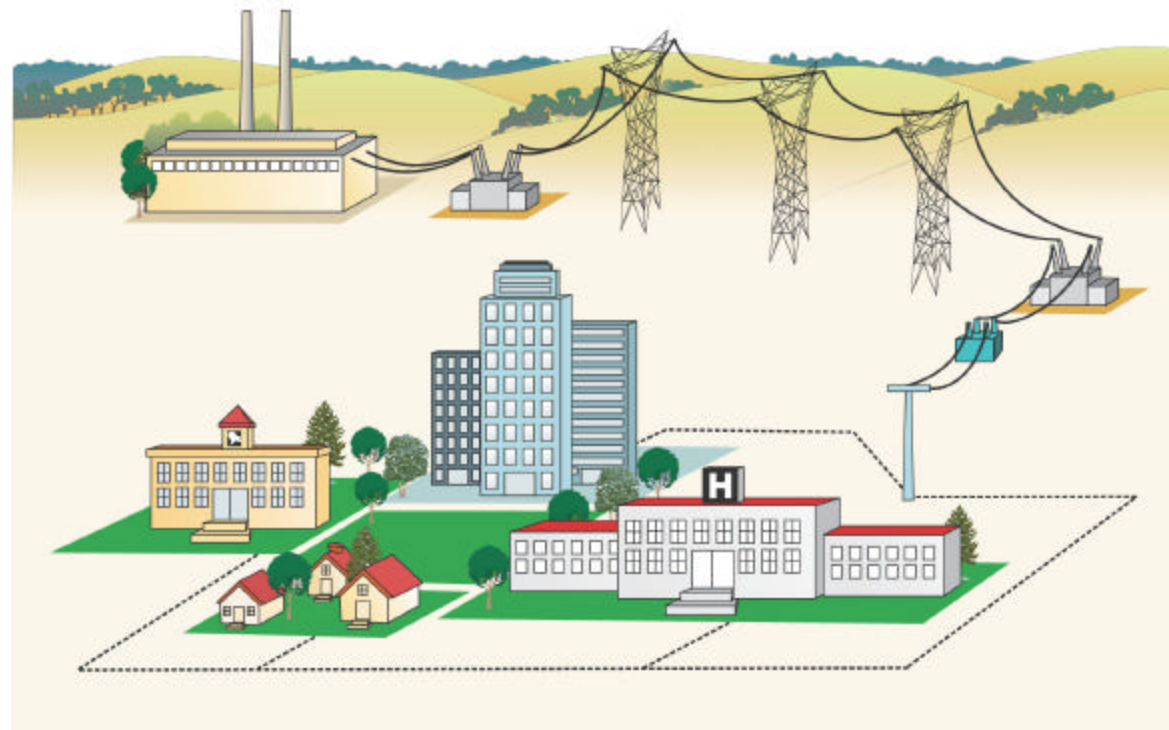


A voluntary partnership between organizations, businesses, consumers, and government, united in the pursuit of a common goal —
to protect our environment for future generations by changing to energy-efficient products and practices today.

The Need for Energy Efficiency



Energy waste at home and at work will cost U.S. organizations and consumers billions of dollars in the next 10 years.



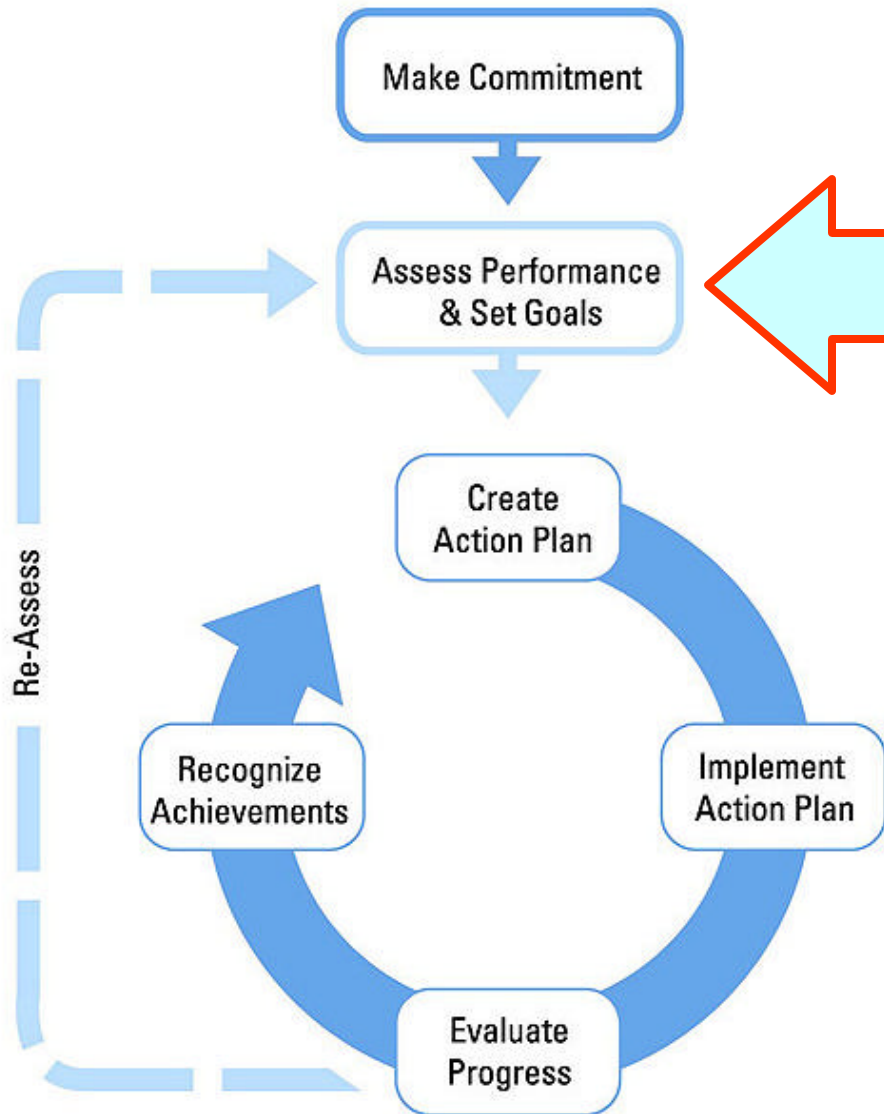
Wasted energy contributes to smog, acid rain, and greenhouse gases.

The Power of ENERGY STAR



In 2002 alone, Americans, with the help of **ENERGY STAR**, saved enough energy to power 15 million homes and reduce the greenhouse gas emissions equivalent to those of 14 million cars -- all while saving \$7 billion.

Energy Management Strategy



The Opportunity



**How much new equipment
could you buy from
the dollars saved
by installing energy
efficiency equipment now?**



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

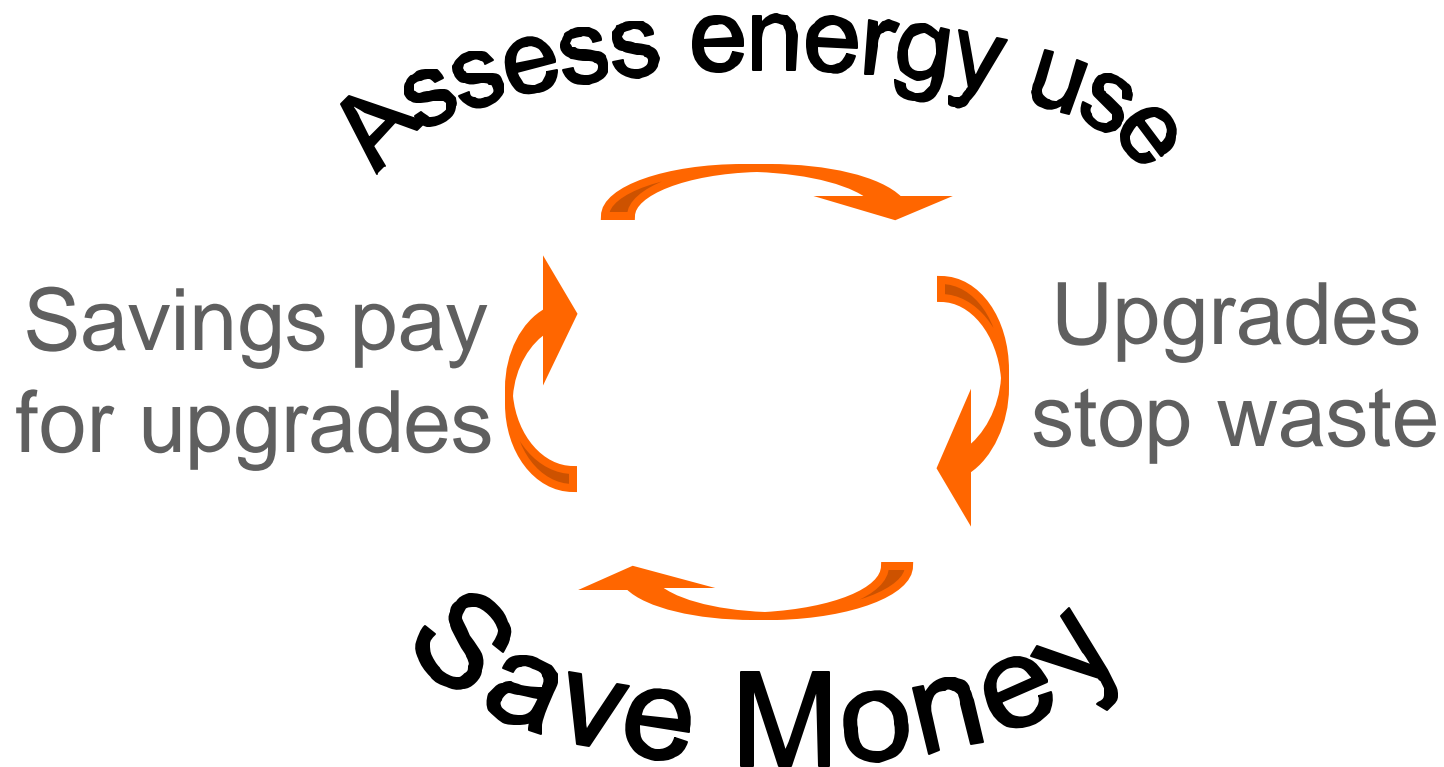
The “Business” of Energy Efficiency



Energy efficiency projects are **unlike** other capital projects:

- Properly structured, they pay for themselves.
- They do not have to compete with other capital projects for funding.

The “Business” of Energy Efficiency



What is the CFO Calculator ?



An energy efficiency financial decision-making tool, built on Microsoft Excel™

- Instructions
- Four analysis spread sheets
- A summary report

Helps quantifies the costs 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?

When Should it be Used ?



- When decision making has been deferred or is controversial
- When opportunity losses are real and calculable

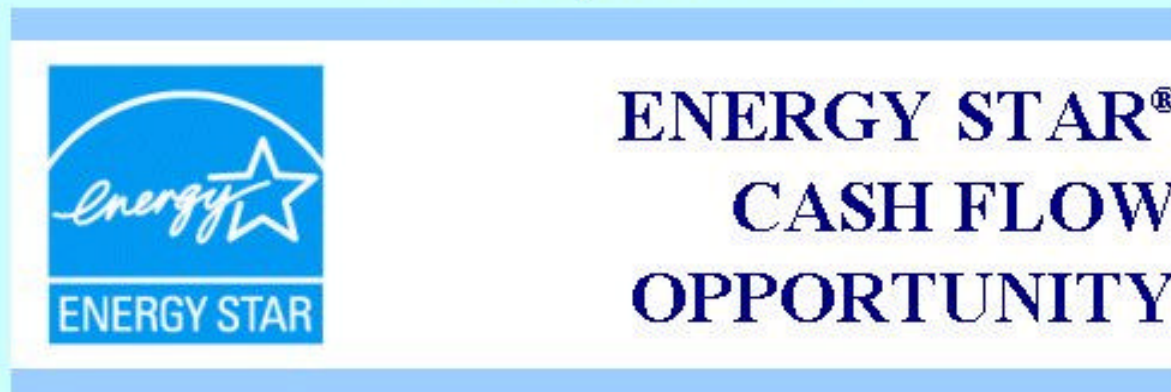
The CFO Calculator helps quantify the urgency of acting NOW!

Meet the CFO Calculator



ENERGY STAR® CASH FLOW OPPORTUNITY Calculator from the US Environmental Protection Agency.

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



February 3, 2003

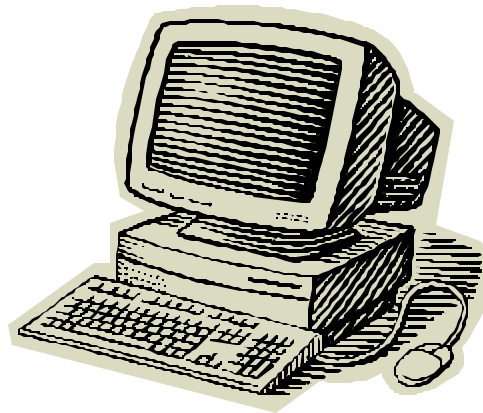
Please report any inconsistencies or problems to
nzobler@catalyst-financial.com or jrovi@cadmusgroup.com

[Disclaimer](#)

The CFO Calculator's 7 Tabs




Intro / Instructions / Data Entry / Investment Values / Cash Flow / Cost of Delay / Summary /



Instructions Page



The instructions provide useful information and step-by-step how-to-use guidelines



**ENERGY STAR[®]
CASH FLOW
OPPORTUNITY**
CFO Calculator Instructions

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

HOW TO USE THIS WORKSHEET
This spreadsheet is designed to help decisionmakers address three critical questions about installing energy efficiency projects:

- 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?

Section 1 -- Data Entry Tab
This is where basic information about your organization is entered: the square feet under your management and energy costs.

[Print](#)

A simplified general approach



FIRST APPROXIMATION DATA ENTRY TABLE

Name

Example organization with multiple facilities adding up to 1 million SF

Select Scenario

First Approximation

Sample Values

Sample Values

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings	Buildings cost
Group A	200,000	100,000	0.50	15	\$15,000	LESS than \$1.00 /SF to operate
Group B	800,000	900,000	1.13	30	\$270,000	MORE than \$1.00 /SF to operate
	Total SF	Total Energy Cost (\$) - All Fuel Types	\$/SF	Weighted Savings Target (%)	Total Potential Annual Savings (\$)	
	1,000,000	1,000,000	1.00	28.50%	285,000	

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.

Intro

Instructions

Data Entry

Investment Values

Cash Flow

Cost of Delay

Summary

Data Entry

FIRST APPROXIMATION DATA ENTRY TABLE

Name: Example organization with multiple facilities adding up to 1 million SF

Select Scenario: First Approximation

Sample Values: Sample Values

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings (\$)	Buildings cost
Group A	200,000	100,000	6.00	15	\$16,000	LESS than \$100/SF to operate
Group B	800,000	900,000	1.13	20	\$270,000	MORE than \$100/SF to operate
Total	1,000,000	1,000,000	1.00	20.50%	286,000	

ENERGY STAR does not guarantee the accuracy of all generated results presented herein. An assessment grade audit performed by a qualified engineering organization is required to determine the actual size of your existing facility.

Name Example organization with multiple facilities adding up to 1 million SF (1)

Select Scenario First Approximation (2)

Sample Values Sample Values (3)

- (1) Enter name of organization
- (2) Select approximation
- (3) View a sample

Data Entry

FIRST APPROXIMATION DATA ENTRY TABLE

Name:

Select Scenario:

Sample Values:

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings	Buildings cost
Group A	200,000	100,000	0.50	15	\$15,000	LESS than \$1.00 /SF to operate
Group B	800,000	900,000	1.13	30	\$270,000	MORE than \$1.00 /SF to operate
Total	1,000,000	1,000,000	1.00	28.50%	285,000	

ENERGY STAR does not guarantee that your performance will meet the results presented herein. An independent energy audit by a qualified engineering organization is recommended to determine the actual size of your savings opportunities.

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings	Buildings cost
Group A	(4) 200,000	(5) 100,000	0.50	15 (6)	\$15,000	LESS than \$1.00 /SF to operate
Group B	800,000	900,000	1.13	30	\$270,000	MORE than \$1.00 /SF to operate

(4) Total square footage for each group

(5) Annual energy costs for each group

(6) Your best estimate of percent savings

Data Entry

FIRST APPROXIMATION DATA ENTRY TABLE

Name:

Select Scenario:

Sample Values:

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings (\$)	Building cost:
Group A	200,000	100,000	0.50	15	\$15,000	LESS than \$100/SF to operate
Group B	800,000	800,000	1.13	30	\$270,000	MORE than \$100/SF to operate
Total SF		Total Energy Cost (\$) - All Fuel Types	\$/SF	Weighted Savings Target (%)	Total Potential Annual Savings (\$)	
1,000,000		1,000,000	1.00	28.50%	285,000	

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

Total SF	Total Energy Cost (\$) - All Fuel Types	\$/SF	Weighted Savings Target (%)	Total Potential Annual Savings (\$)
1,000,000	1,000,000	1.00	(7) 28.50%	(8) 285,000

(7) Weighted Savings Target is the overall savings based on total square footage and dollars

(8) Based on your estimated savings target, this is the excess amount paid to the utility companies

Value of Your Investment



FIRST APPROXIMATION INVESTMENT OPPORTUNITY

	Group A	Group B	Total Utility Bill
Annual Utility Bills	\$100,000	\$900,000	\$1,000,000
Annual Potential Savings	\$15,000	\$270,000	\$285,000

Potential Annual Savings = Cash Flow Opportunity

Use Sample Values

What Can This Annual Cash Flow Buy?

Calculate

Assuming an interest rate of

5.00

%

Assuming a term of

7

Year(s)

Savings used to pay energy investments

90

%

You may change these values anytime. If you would like to see the sample values, please click on the Use Sample Values button.

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

without increasing today's capital and operating budgets.

Contribution that your operating budget can make towards energy improvements

/SF

Median project investment ranges between \$1 - 3/ft².*

Simple Payback

Year(s)

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

Month(s)

*Market Trends in the U.S. ESCO Industry: Results from the NAESCO Database Project (http://www.naesco.org/ESCO_Mkt_Trends_final.pdf), May 2002

[Disclaimer](#)

Investment Values



FIRST APPROXIMATION INVESTMENT OPPORTUNITY

	Group A	Group B	Total Utility Bill
Annual Utility Bills	\$100,000	\$900,000	\$1,000,000
Annual Potential Savings	\$15,000	\$270,000	\$285,000
Potential Annual Savings = Cash Flow Opportunity			

(4)

Use Sample Values **Calculate**

What Can This Annual Cash Flow Buy?

Assuming an interest rate of	5.00	%	You may change these values anytime. If you would like to see the sample values, please click on the Use Sample Values button.
Assuming a term of	7	Year(s)	
Savings used to pay energy investments	90	%	

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

Contribution that your operating budget can make towards energy investments

Simple Payback

without increasing today's capital and operating budgets.

Median project investment ranges between \$1 - 2M*

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

Market Trends by U.S. RESCO Database Project (Project) (2011) May 2012

Assuming an interest rate of	(1)	5.00	%
Assuming a term of	(2)	7	Year(s)
Savings used to pay energy investments	(3)	90	%

- (1) The rate your organization can obtain financing
- (2) Financing term acceptable to your organization and the lender
- (3) Percentage of savings to commit to pay for energy efficiency improvements



Dollars are buried in your utility bill!

FIRST APPROXIMATION INVESTMENT OPPORTUNITY

	Group A	Group B	Total Utility Bill
Annual Utility Bill:	\$100,000	\$500,000	\$1,000,000
Annual Potential Savings:	\$15,000	\$270,000	\$285,000

Potential Annual Savings = Cash Flow Opportunity

Use Sample Values

What Can This Annual Cash Flow Buy?

Assuming an interest rate of:	5.00	%	You may change these values anytime. If you would like to see the sample values, please click on the Use Sample Values button.
Assuming a term of:	7	Year (s)	
Savings used to pay energy investments:	30	%	

Taken from operating funds, these savings could finance energy projects equal to:	\$1,512,000	without increasing today's capital and operating budgets.	
Contribution that your operating budget can make towards energy improvements:	\$1.51	of	Medium project investment ranges between \$1 - \$5M**
Single Budget:	5	out of	Consider budgeting short- and long-term investments to minimize size of the savings.
Multiple Budgets:	4	out of	

Market Tools are the U.S. Energy Institute's free tools for the Energy Efficiency Resource Project. ©2009, ERI, Inc. Tools are for informational purposes only. Disclaimer

Taken from operating funds, these savings could finance energy projects equal to:	(5) \$1,512,000	without increasing today's capital and operating budgets.
---	------------------------	---

(5) Estimated value of equipment that could be acquired without increasing existing Operating or Capital Budgets

Pay for energy efficiency improvements **TODAY** using the money saved from **FUTURE** bills!

Investment Values



FIRST APPROXIMATION INVESTMENT OPPORTUNITY

	Group A	Group B	Total Utility Bill
Annual Utility Bill:	\$100,000	\$500,000	\$1,000,000
Annual Potential Savings:	\$15,000	\$270,000	\$285,000

Potential Annual Savings = Cash Flow Opportunity

Use Sample Values Reset

What Can This Annual Cash Flow Buy?

Assuming an interest rate of %
 Assuming a term of Year(s)
 Savings used to pay energy investments: %

Taken from operating funds, these savings could finance energy projects equal to: **\$1,512,000** without increasing today's capital and operating budgets.

Contribution that your operating budget can make towards energy improvements: /SF
 Simple Payback: Year(s) / Month(s)

Median project investment ranges between \$1 - 30/sf*
 Consider blending short- and long-term projects to maximize use of the savings.

Contribution that your operating budget can make towards energy improvements	(6)	\$1.51	/SF	Median project investment ranges between \$1 - 30/sf.*
Simple Payback	(7)	5	Year(s)	Consider blending short- and long-term projects to maximize use of the savings.
		4	Month(s)	

(6) Contribution your operating budget can make toward energy improvements

(7) Simple payback

Cash Flow

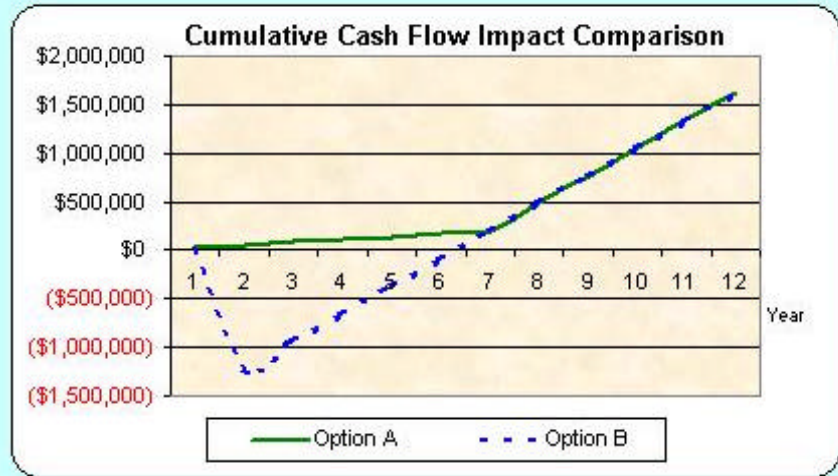


FIRST APPROXIMATION CASH FLOW OPPORTUNITY

Click this button if you would like to transfer values from Investment Values page. Year(s) postponed is given as 2 years.

Use Investment Values

Project cost	1,512,000	\$
Simple payback	5	years
	4	month(s)
Interest rate	5.00	%
Financing term	7	years
Year(s) postponed	1	



Year	Option A (Fast Track Financing)				Option B (Waiting for Cash)				
	Savings	Cost	Annual Cash Flow	Cumulative Cash Flow	Savings	Cost	Annual Cash Flow	Cumulative Cash Flow	
0	\$285,000	(\$256,446)	\$28,554	\$28,554	\$0	\$0	\$0	\$0	
1	\$285,000	(\$256,446)	\$28,554	\$57,109	\$285,000	(\$1,512,000)	(\$1,227,000)	(\$1,227,000)	
2	\$285,000	(\$256,446)	\$28,554	\$85,663	\$285,000	\$0	\$285,000	(\$942,000)	
3	\$285,000	(\$256,446)	\$28,554	\$114,217	\$285,000	\$0	\$285,000	(\$657,000)	
4	\$285,000	(\$256,446)	\$28,554	\$142,772	\$285,000	\$0	\$285,000	(\$372,000)	
5	\$285,000	(\$256,446)	\$28,554	\$171,326	\$285,000	\$0	\$285,000	(\$87,000)	
6	\$285,000	(\$256,446)	\$28,554	\$199,880	\$285,000	\$0	\$285,000	\$198,000	
7	\$285,000	\$0	\$285,000	\$484,880	\$285,000	\$0	\$285,000	\$483,000	
8	\$285,000	\$0	\$285,000	\$769,880	\$285,000	\$0	\$285,000	\$768,000	
9	\$285,000	\$0	\$285,000	\$1,054,880	\$285,000	\$0	\$285,000	\$1,053,000	
10	\$285,000	\$0	\$285,000	\$1,339,880	\$285,000	\$0	\$285,000	\$1,338,000	
11	\$285,000	\$0	\$285,000	\$1,624,880	\$285,000	\$0	\$285,000	\$1,623,000	
Net Present Value of Option A				\$1,042,136	Net Present Value of Option B				\$883,170

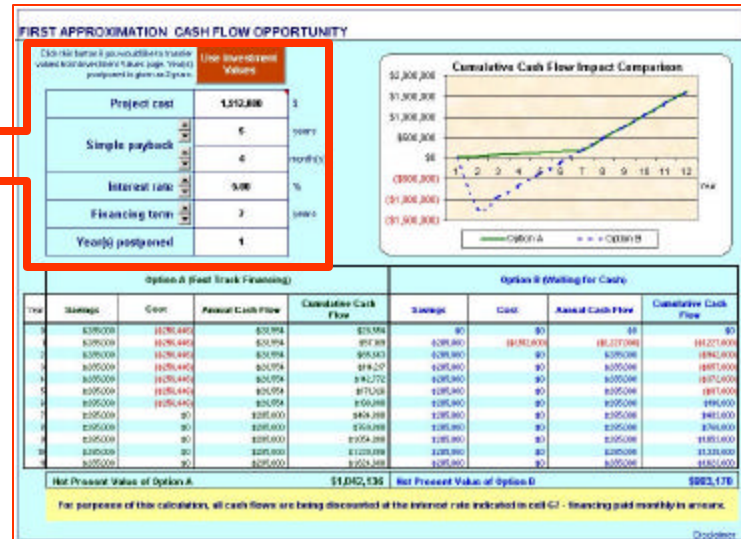
Cash Flow



Click this button if you would like to transfer values from Investment Values page. Year(s) postponed is given as 1 year.

Use Investment Values

Project cost	1,512,000	\$
Simple payback	5	years
	4	month(s)
Interest rate	5.00	%
Financing term	7	years
Year(s) postponed	1	(1)



(1) Starting from Year 0 (now), this cell will contain the time period in which you delayed your energy efficiency improvements.

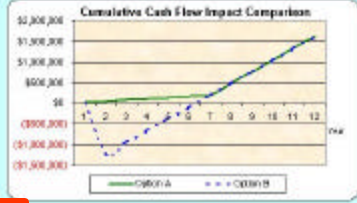
Should we do it now?

FIRST APPROXIMATION CASH FLOW OPPORTUNITY

Click the format you would like to use to view the data in a table or chart. You can print the data in a table or chart.

Use Investment Values

Project cost	150,000	\$
Simple payback	6	years
Interest rate	5.00	%
Financing term	7	years
Year(s) postponed	1	



Option A (Fast Track Financing)				Option B (Waiting For Cash)				
Year	Savings	Cost	Annual Cash Flow	Cumulative Cash Flow	Savings	Cost	Annual Cash Flow	Cumulative Cash Flow
0	\$285,000	(\$256,446)	\$28,554	\$28,554	\$0	\$0	\$0	(\$1,500,000)
1	\$285,000	(\$256,446)	\$28,554	\$57,109	\$285,000	(\$0)	\$285,000	(\$1,215,000)
2	\$285,000	(\$256,446)	\$28,554	\$85,663	\$285,000	(\$0)	\$285,000	(\$930,000)
3	\$285,000	(\$256,446)	\$28,554	\$114,217	\$285,000	(\$0)	\$285,000	(\$645,000)
4	\$285,000	(\$256,446)	\$28,554	\$142,772	\$285,000	(\$0)	\$285,000	(\$360,000)
5	\$285,000	(\$256,446)	\$28,554	\$171,326	\$285,000	(\$0)	\$285,000	(\$75,000)
6	\$285,000	(\$256,446)	\$28,554	\$199,880	\$285,000	(\$0)	\$285,000	\$199,880
7	\$285,000	\$0	\$285,000	\$484,880	\$285,000	(\$0)	\$285,000	\$484,880
8	\$285,000	\$0	\$285,000	\$769,880	\$285,000	(\$0)	\$285,000	\$769,880
9	\$285,000	\$0	\$285,000	\$1,054,880	\$285,000	(\$0)	\$285,000	\$1,054,880
10	\$285,000	\$0	\$285,000	\$1,339,880	\$285,000	(\$0)	\$285,000	\$1,339,880
11	\$285,000	\$0	\$285,000	\$1,624,880	\$285,000	(\$0)	\$285,000	\$1,624,880

Net Present Value of Option A: \$1,040,532 | Net Present Value of Option B: \$883,178

For purposes of this calculation, all cash flows are being discounted at the interest rate indicated in cell G7 - financing paid monthly in arrears.

Pay as we use?

Option A (Fast Track Financing)				
Year	Savings	Cost	Annual Cash Flow	Cumulative Cash Flow
0	\$285,000	(\$256,446)	\$28,554	\$28,554
1	\$285,000	(\$256,446)	\$28,554	\$57,109
2	\$285,000	(\$256,446)	\$28,554	\$85,663
3	\$285,000	(\$256,446)	\$28,554	\$114,217
4	\$285,000	(\$256,446)	\$28,554	\$142,772
5	\$285,000	(\$256,446)	\$28,554	\$171,326
6	\$285,000	(\$256,446)	\$28,554	\$199,880
7	\$285,000	\$0	\$285,000	\$484,880
8	\$285,000	\$0	\$285,000	\$769,880
9	\$285,000	\$0	\$285,000	\$1,054,880
10	\$285,000	\$0	\$285,000	\$1,339,880
11	\$285,000	\$0	\$285,000	\$1,624,880



Should we wait until funds are available?

FIRST APPROXIMATION CASH FLOW OPPORTUNITY

Click the button to go to the data entry page. You will be prompted to give us 2 pages.

Use Investment Values

Project cost	1,512,000	\$
Simple payback	6	years
Interest rate	5.00	%
Financing term	3	years
Year(s) postponed	1	

Cumulative Cash Flow Impact Comparison

Year	Savings	Cost	Annual Cash Flow	Cumulative Cash Flow
0	\$0	\$0	\$0	\$0
1	\$285,000	(\$1,512,000)	(\$1,227,000)	(\$1,227,000)
2	\$285,000	\$0	\$285,000	(\$942,000)
3	\$285,000	\$0	\$285,000	(\$657,000)
4	\$285,000	\$0	\$285,000	(\$372,000)
5	\$285,000	\$0	\$285,000	(\$87,000)
6	\$285,000	\$0	\$285,000	\$198,000
7	\$285,000	\$0	\$285,000	\$483,000
8	\$285,000	\$0	\$285,000	\$768,000
9	\$285,000	\$0	\$285,000	\$1,053,000
10	\$285,000	\$0	\$285,000	\$1,338,000
11	\$285,000	\$0	\$285,000	\$1,623,000
12	\$285,000	\$0	\$285,000	\$1,623,000

Net Present Value of Option A: \$1,042,532 | Net Present Value of Option B: \$662,178

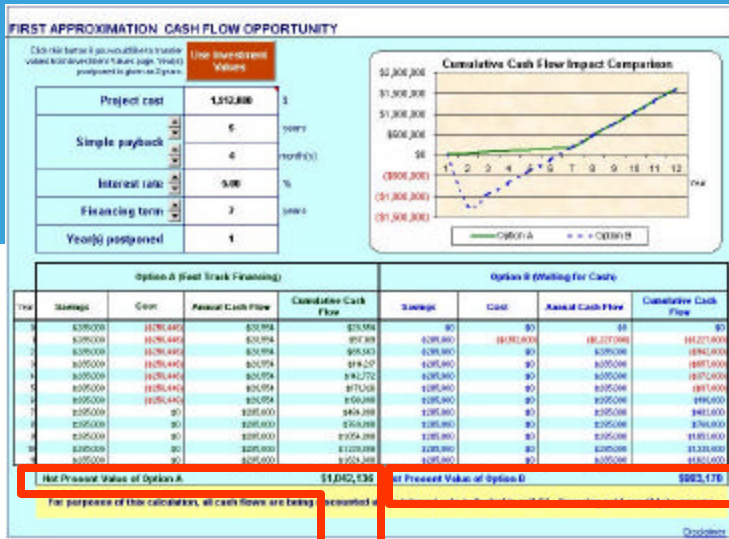
For purposes of this calculation, all cash flows are being discounted at the rate of 5.00% (see cell C7 - Investment Parameters).

Pay as we go?

Option B (Waiting for Cash)			
Savings	Cost	Annual Cash Flow	Cumulative Cash Flow
\$0	\$0	\$0	\$0
\$285,000	(\$1,512,000)	(\$1,227,000)	(\$1,227,000)
\$285,000	\$0	\$285,000	(\$942,000)
\$285,000	\$0	\$285,000	(\$657,000)
\$285,000	\$0	\$285,000	(\$372,000)
\$285,000	\$0	\$285,000	(\$87,000)
\$285,000	\$0	\$285,000	\$198,000
\$285,000	\$0	\$285,000	\$483,000
\$285,000	\$0	\$285,000	\$768,000
\$285,000	\$0	\$285,000	\$1,053,000
\$285,000	\$0	\$285,000	\$1,338,000
\$285,000	\$0	\$285,000	\$1,623,000



Net Present Values



Net Present Value of Option A \$1,042,136

Net Present Value of Option B \$883,170

Whichever option generates the most present value dollars is the better financial decision.

Manage Your Cash



FIRST APPROXIMATION CASH FLOW OPPORTUNITY

Click the format if you would like to transfer values to a spreadsheet (Excel page, Word document or PowerPoint presentation).

Use Investment Values

Project cost	1,510,000	\$
Simple payback	6	years
	6	months(x)
Interest rate	5.00	%
Financing term	3	years
Year(s) postponed	1	

Option A (Fast Track Financing)

Year	Strategy	Cost	Annual Cash Flow	Cumulative Cash Flow
0		\$350,000	(\$350,000)	(\$350,000)
1		\$350,000	(\$350,000)	(\$700,000)
2		\$350,000	(\$350,000)	(\$1,050,000)
3		\$350,000	(\$350,000)	(\$1,400,000)
4		\$350,000	(\$350,000)	(\$1,750,000)
5		\$350,000	(\$350,000)	(\$2,100,000)
6		\$350,000	(\$350,000)	(\$2,450,000)
7		\$350,000	(\$350,000)	(\$2,800,000)
8		\$350,000	(\$350,000)	(\$3,150,000)
9		\$350,000	(\$350,000)	(\$3,500,000)
10		\$350,000	(\$350,000)	(\$3,850,000)
11		\$350,000	(\$350,000)	(\$4,200,000)
12		\$350,000	(\$350,000)	(\$4,550,000)

Option B (Waiting For Cash)

Year	Strategy	Cost	Annual Cash Flow	Cumulative Cash Flow
0		\$0	\$0	\$0
1		\$0	\$0	\$0
2		\$0	\$0	\$0
3		\$0	\$0	\$0
4		\$0	\$0	\$0
5		\$0	\$0	\$0
6		\$0	\$0	\$0
7		\$0	\$0	\$0
8		\$0	\$0	\$0
9		\$0	\$0	\$0
10		\$0	\$0	\$0
11		\$0	\$0	\$0
12		\$0	\$0	\$0

Net Present Value of Option A: \$1,040,536
Net Present Value of Option B: \$883,178

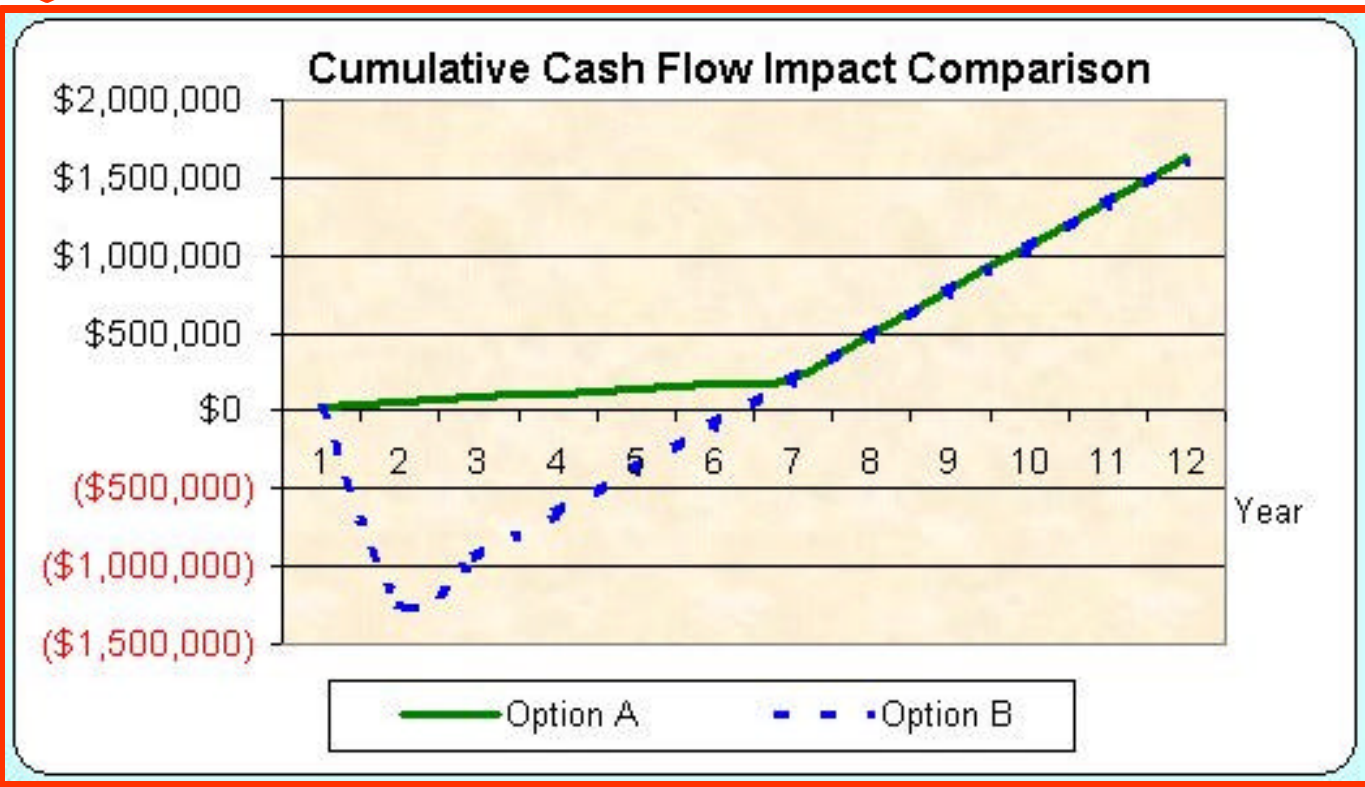
For purposes of this calculation, all cash flows are being discounted at the interest rate entered in cell C7 - financing opportunity interest.



Option A: Fast track financing

Option B: Waiting for cash/budget approval etc.

Which option is easier to manage?

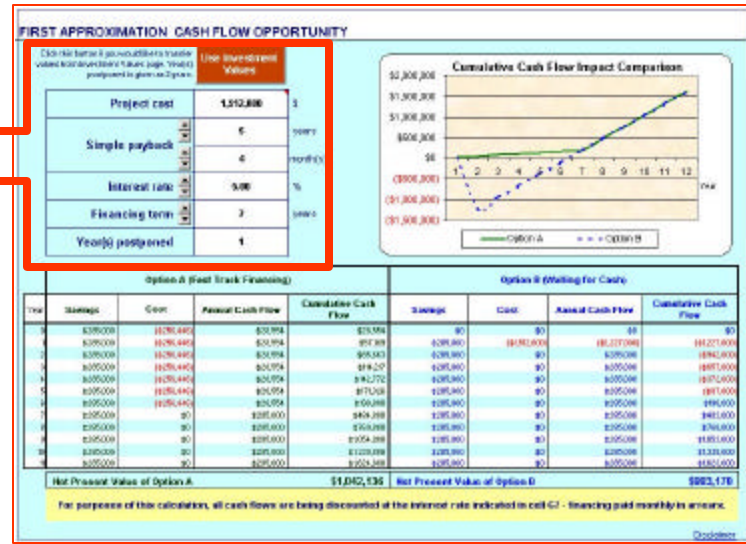


Play with Sensitivities

Click this button if you would like to transfer values from Investment Values page. Year(s) postponed is given as 1 year.

Use Investment Values

Project cost	1,512,000	\$
Simple payback	5	years
	4	month(s)
Interest rate	5.00	%
Financing term	7	years
Year(s) postponed	1	



By playing with these numbers, you can structure your project to maximize the benefits of the energy dollars saved.

Recap



- 1) Energy waste is substantial; these dollars should be used to pay for new equipment.
- 2) Financing the equipment today, rather than postponing the installation until funds are available in future budgets, is a better financial decision.
- 3) If we can access lower cost financing, why should we consider a higher rate offering?

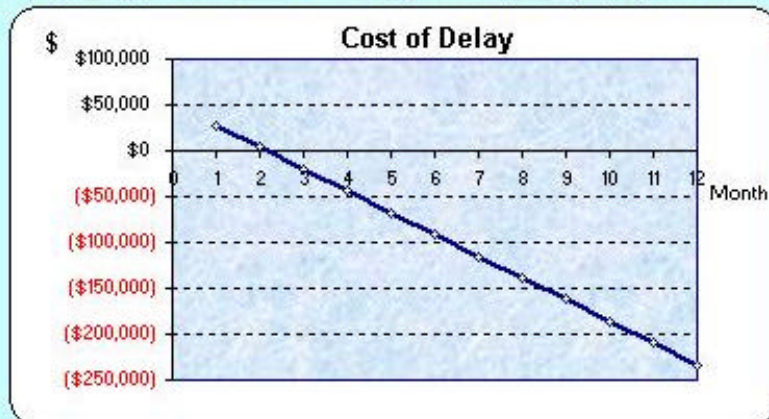
Cost of Delay



FIRST APPROXIMATION COST OF DELAY

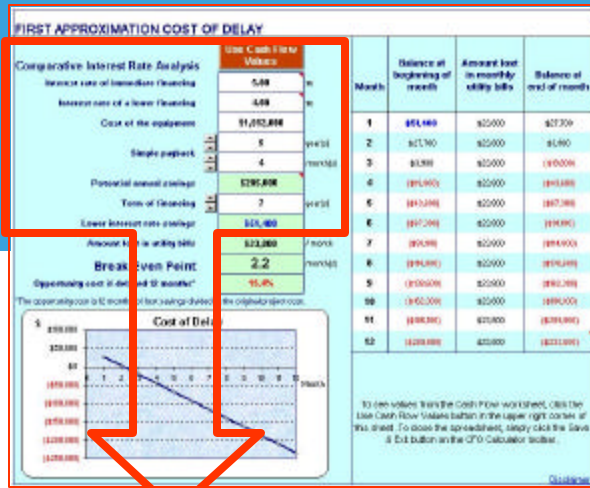
Comparative Interest Rate Analysis		Use Cash Flow Values	Month	Balance at beginning of month	Amount lost in monthly utility bills	Balance at end of month
Interest rate of immediate financing	5.00	%	1	\$51,400	\$23,800	\$27,700
Interest rate of a lower financing	4.00	%	2	\$27,700	\$23,800	\$3,900
Cost of the equipment	\$1,512,000		3	\$3,900	\$23,800	(\$19,800)
Simple payback	5	year(s)	4	(\$19,800)	\$23,800	(\$43,600)
	4	month(s)	5	(\$43,600)	\$23,800	(\$67,300)
Potential annual savings	\$285,000		6	(\$67,300)	\$23,800	(\$91,100)
Term of financing	7	year(s)	7	(\$91,100)	\$23,800	(\$114,800)
Lower interest rate savings	\$51,400		8	(\$114,800)	\$23,800	(\$138,600)
Amount lost in utility bills	\$23,800	/ month	9	(\$138,600)	\$23,800	(\$162,300)
Break-Even Point	2.2	month(s)	10	(\$162,300)	\$23,800	(\$186,100)
Opportunity cost if delayed 12 months*	15.4%		11	(\$186,100)	\$23,800	(\$209,800)
			12	(\$209,800)	\$23,800	(\$233,600)

*The opportunity cost is 12 months of lost savings divided by the original project cost.



To see values from the Cash Flow worksheet, click the Use Cash Flow Values button in the upper right corner of this sheet. To close the spreadsheet, simply click the Save & Exit button on the CFO Calculator toolbar.

Cost of Delay



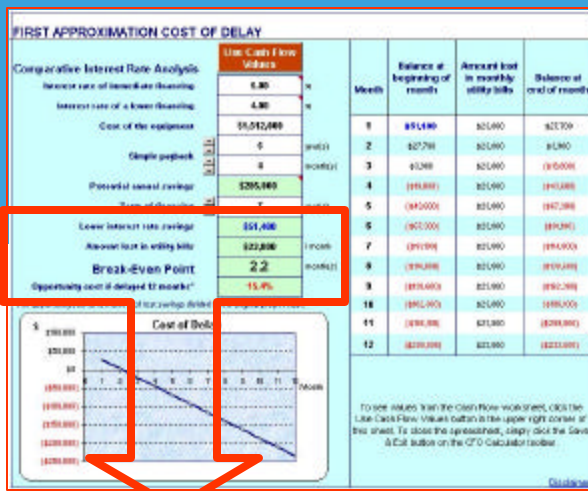
Comparative Interest Rate Analysis

Use Cash Flow Values

Interest rate of immediate financing	5.00 %
Interest rate of a lower financing	(1) 4.00 %
Cost of the equipment	\$1,512,000
Simple payback	5 year(s)
Potential annual savings	4 month(s)
Term of financing	7 year(s)
Lower interest rate savings	(2) \$51,400

- (1) Lower interest rate
- (2) Benefit of one financing versus another

Cost of Delay



Lower interest rate savings

\$51,400

Amount lost in utility bills

\$23,800

/ month

Break-Even Point

2.2 (3)

month(s)

Opportunity cost if delayed 12 months*

15.4% (4)

*The opportunity cost is 12 months of lost savings divided by the original project cost.

(3) How long you can wait until the lower interest rate becomes the more expensive decision

(4) Percentage of the project cost lost by waiting 12 months

A 'better deal'?

FIRST APPROXIMATION COST OF DELAY

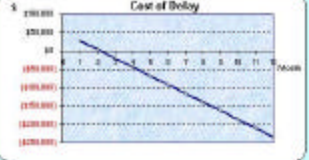
Use Cash Flow values

Comparative Interest Rate Analysis

Interest rate of immediate financing	6.80	%
Interest rate of a loan financing	4.80	%
Cost of the equipment	\$1,012,000	
Simple payback	8	months
Present value savings	\$205,980	
Term of financing	T	months
Lower interest rate savings	\$51,400	
Amount lost in utility bills	\$23,800	
Break-Even Point	2.2	months
Opportunity cost of delayed \$1 month*	-15.9%	

The opportunity cost is 10 months of low savings divided by the original project cost.

Cost of Delay



Month	Balance at beginning of month	Amount lost in monthly utility bills	Balance at end of month
1	\$51,400	\$23,800	\$27,700
2	\$27,700	\$23,800	\$3,900
3	\$3,900	\$23,800	(\$19,800)
4	(\$19,800)	\$23,800	(\$43,600)
5	(\$43,600)	\$23,800	(\$67,300)
6	(\$67,300)	\$23,800	(\$91,100)
7	(\$91,100)	\$23,800	(\$114,800)
8	(\$114,800)	\$23,800	(\$138,600)
9	(\$138,600)	\$23,800	(\$162,300)
10	(\$162,300)	\$23,800	(\$186,100)
11	(\$186,100)	\$23,800	(\$209,800)
12	(\$209,800)	\$23,800	(\$233,600)

To see values, visit the Cash Flow worksheet, C003. Use Cash Flow values within the upper right corner of this sheet. To show the spreadsheet, click the 'Show Spreadsheet' button in the upper right corner of this sheet.

Break-Even Point:

After this point, the lost energy savings will consume the total savings realized from the lower interest rate financing.

Month	Balance at beginning of month	Amount lost in monthly utility bills	Balance at end of month
1	\$51,400	\$23,800	\$27,700
2	\$27,700	\$23,800	\$3,900
3	\$3,900	\$23,800	(\$19,800)
4	(\$19,800)	\$23,800	(\$43,600)
5	(\$43,600)	\$23,800	(\$67,300)
6	(\$67,300)	\$23,800	(\$91,100)
7	(\$91,100)	\$23,800	(\$114,800)
8	(\$114,800)	\$23,800	(\$138,600)
9	(\$138,600)	\$23,800	(\$162,300)
10	(\$162,300)	\$23,800	(\$186,100)
11	(\$186,100)	\$23,800	(\$209,800)
12	(\$209,800)	\$23,800	(\$233,600)

Summary Report



ENERGY STAR[®] CASH FLOW OPPORTUNITY CFO Calculator

FIRST APPROXIMATION SUMMARY of FINANCIAL CALCULATIONS

[Print](#)

Name: Example organization with multiple facilities adding up to 1 million SF

Select Scenario: FIRST APPROXIMATION

This information has been generated by a spreadsheet developed by ENERGY STAR. It helps address three critical questions about installing energy efficiency projects:

- 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?

1. How much energy efficiency equipment can be purchased?

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

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings	Buildings cost
Top Quartile	200,000	\$100,000	\$0.50	15	\$15,000	LESS than \$1.00 /SF to operate
2nd Quartile	800,000	\$900,000	\$1.13	30	\$270,000	MORE than \$1.00 /SF to operate

Using the ENERGY STAR Benchmarking Results



QUARTILE-BASED DATA ENTRY TABLE

Name

Example organization with multiple facilities adding up to 1 million SF

Select Scenario

Using Benchmark Results from ENERGY STAR

Sample Values

Sample Values

	SF	Annual Energy Costs (\$) - All Fuel Types	\$/SF	Savings Target (%)	Potential Annual Savings	Buildings with benchmarking scores of
Top Quartile	200,000	100,000	0.50	10	\$10,000	75 or better
2nd Quartile	350,000	350,000	1.00	20	\$70,000	between 50 and 74
3rd Quartile	300,000	350,000	1.17	30	\$105,000	between 25 and 49
4th Quartile	150,000	200,000	1.33	40	\$80,000	below 25

Total SF	Total Energy Cost (\$) - All Fuel Types	\$/SF	Weighted Savings Target (%)	Total Potential Annual Savings (\$)
1,000,000	1,000,000	1.00	26.50%	265,000

Reminder



An investment grade audit performed by a qualified engineering company will be required to determine the actual size of your savings opportunity.

Please help us...



How might
you use the
CFO Calculator?

CFO Calculator Users



- **Cities:** Fort Worth, Orange County (FL), Miami-Dade County, Las Vegas, Los Angeles, San Diego
- **States:** CA, CT, GA, PA, TX, VA
- **School Districts:** Fairfax County, Clark County, Philadelphia, Houston, Dallas

Distance Learning Opportunities

- ENERGY STAR -Overview for Public Sector Organizations
- Higher Education ENERGY STAR Overview
- ENERGY STAR Overview for Service & Product Providers
- Benchmarking with ES Portfolio Manager
- Money for Your Energy Upgrades
- Introduction to The CFO Calculator
- Purchasing and Procurement
- PC Power Management
- Designing Top Energy Performing Building for Your Clients

To register, please visit [ENERGY STAR Online Trainings and Presentations](#)

www.energystar.gov

For More Information



A screenshot of the Energy Star website's navigation menu. The menu is organized into several columns. The first column is labeled "PRODUCTS" and includes links for "Appliances, Lighting, Heating and Cooling & more", "Find a Store", and "Special Offers in certain regions". The second column is labeled "HOME IMPROVEMENT" and includes links for "Solutions to common problems", "Home Energy Analysis", and "Home Sealing Seal & Insulate". The third column is labeled "NEW HOMES" and includes links for "Make your next home ENERGY STAR" and "Find Local Homebuilders and other partners". The fourth column is labeled "BUSINESS IMPROVEMENT" and is circled in red with a red arrow pointing to it. It includes links for "Reduce building and facility energy use in your organization", "Guidelines for Energy Management", "Find Labeled Buildings", and "Education & Gov't". The fifth column is labeled "PARTNER RESOURCES" and includes links for "Join ENERGY STAR Who Has Joined?", "For Manufacturers & Retailers", "For Utilities/Efficiency Program Sponsors", "For Home Builders, Lenders, Raters", "For Energy Service & Product Providers", and "New ENERGY STAR Identity Guidelines". At the bottom of the menu, there is a link for "5 Steps You Can Take To Reduce Air Pollution".

For a copy of the CFO Calculator:

1. Go to www.energystar.gov
2. Select "Business Improvement"
3. Choose "Assess Financial Value."
4. Scroll down to "The CFO Calculator".

ENERGY STAR Contacts



- www.energystar.gov
- 1-888-STAR-YES (1-888-782-7937)
- Katy Hatcher
ENERGY STAR National Manager, Public Sector
Hatcher.Caterina@epa.gov
- Neil Zabler
Catalyst Financial Group, Inc.
Contractors to US EPA ENERGY STAR
203-790-4177
nzabler@catalyst-financial.com