



ENERGY STAR® Money for Your Energy Upgrades

An Introduction to Financing
Energy Efficiency Upgrades in
the Public Sector

Today's Discussion



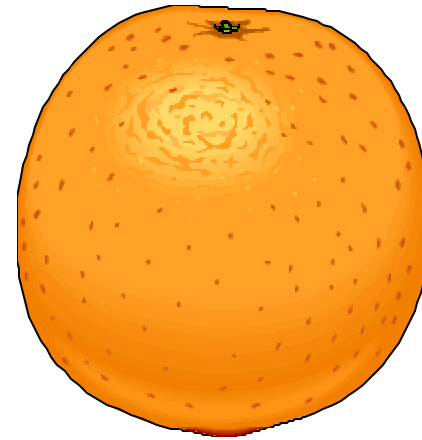
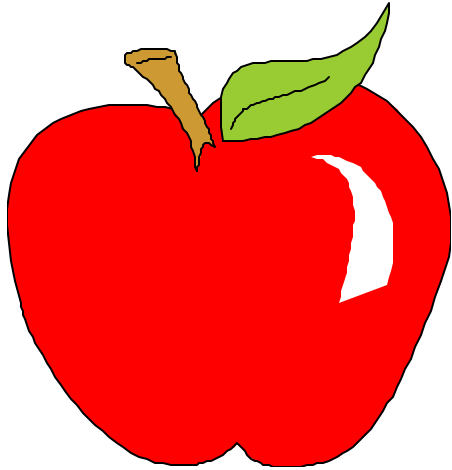
- Paying for Energy Efficiency with Operating Budget Dollars
- Tax Exempt Lease-Purchase Agreements – the basics
- Performance Contracts – the basics
- Delaying the installation is an **expensive** decision

Public Sector Defined



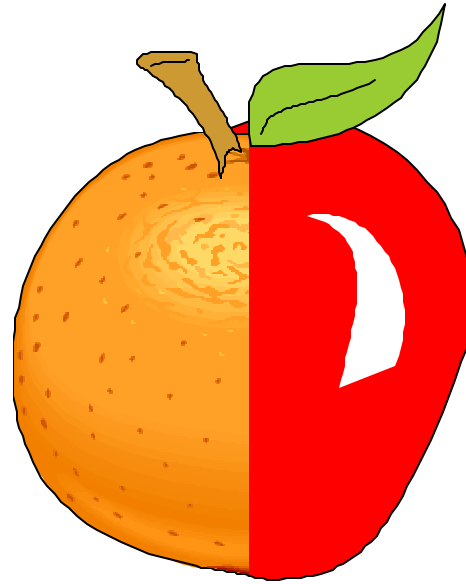
- **Governments**
 - State
 - County
 - Local/Municipal
 - Agencies
- **Schools**
 - K-12
- **Higher Education**
 - State Universities and Community Colleges
 - Private Colleges and Universities

Private vs. Public Sector



- Approval Process
- Financial Instruments
- Authorization to Commit

Private vs. Public Sector



- Budget Savings
- Maintenance Savings
- Environmental Improvements

Goals of Presentation:

- Change traditional thinking about energy financing in the public sector
- Accelerate the installation of energy-efficient equipment

Energy Optimization

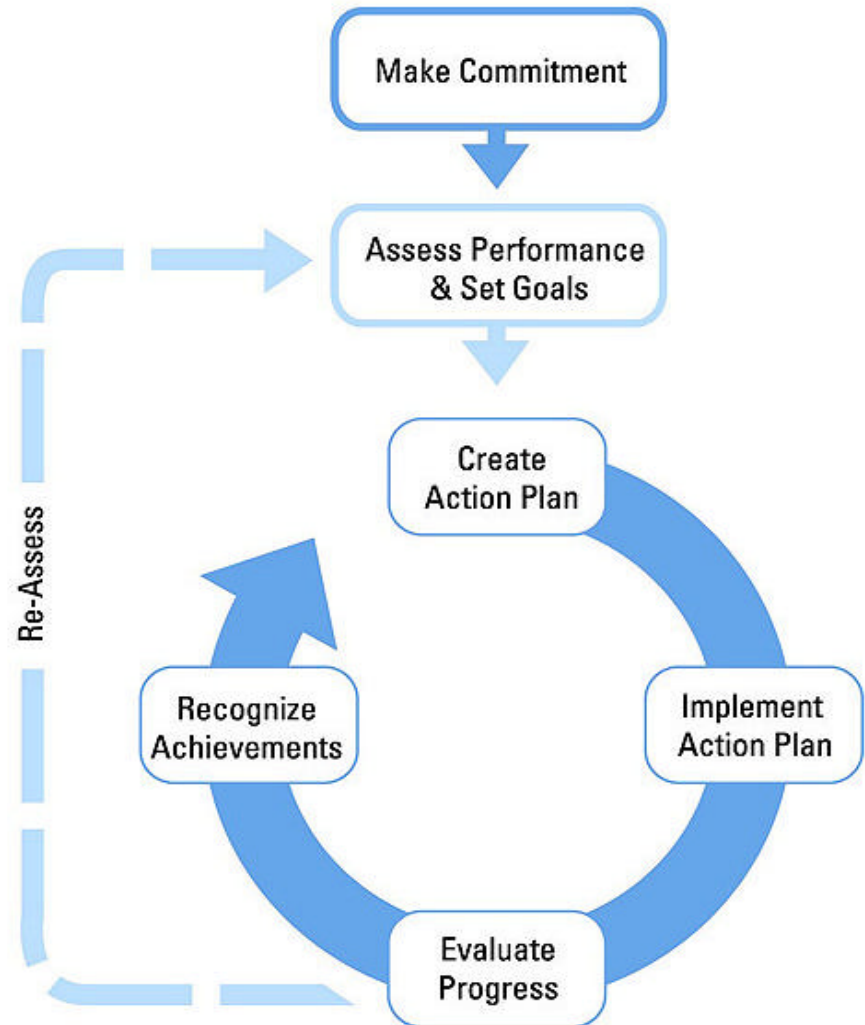
- Focuses on decreasing energy cost while increasing productivity
- Combines energy efficiency equipment with operational procedures that can transform energy bills into “cash flow opportunities”

Energy Management Strategy



These guidelines are the result of the “best practices” from top ENERGY STAR partners.

Put their expertise to work for your organization!





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

So...

where *does* the money
come from to pay for
energy efficiency projects?

Accounting 101



Capital Budget (Debt)

- What is the approval process?
 - Board/Council
 - Referendum
- Ceiling on capital expenses?
- Restructure capital expense budget?

Operating Budget (Expense)

- Already in utility payments
- Easier approval process
- Energy efficiency projects may provide access to captive funds for other needs

Categorizing Financial Instruments



- **Capital Expense**

- Bonds
 - GO
 - Revenue
- Loans
- “Performance Contract”

- **Operating Expense**

- *Lease/Lease-Purchase*
- “Performance Contract”
- **No Expense**
 - Grants
 - Rebates/Incentives

Categorizing Financial Instruments



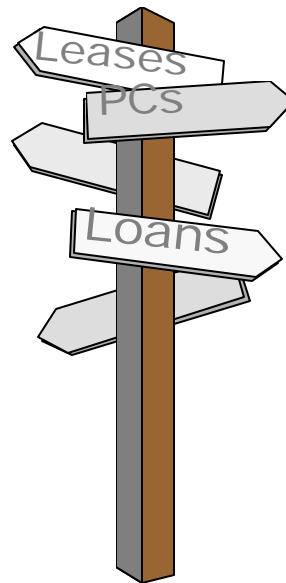
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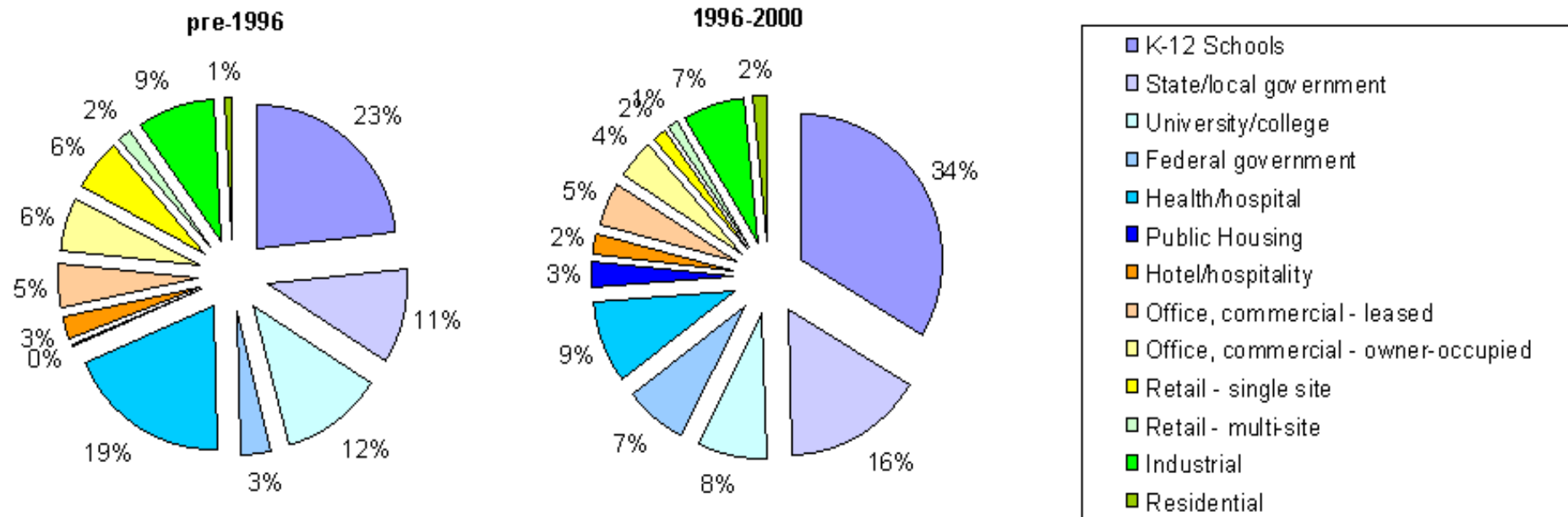
Performance Contracts



Performance Contracting



Market segment trends over time for ESCO projects



Source: National Association of Energy Service Companies

What is an ESCO?



“An ESCO, or Energy Service Company, is a business that **develops, installs, and finances** projects designed to **improve the energy efficiency and maintenance costs** for facilities over a **seven to 10 year** time period. ESCOs generally act as project developers for a wide range of tasks and **assume the technical and performance risk** associated with the project.”

www.naesco.org

What Services Can An ESCo Provide?



- Walk-through energy audit
- Comprehensive energy audit
- Design and specification of new equipment
- Vendor of energy efficiency equipment
- Installation/construction management
- Performance guarantees
- Ongoing maintenance
- Training of personnel
- Measurement and verification of project performance
- Financing
- Indoor Air Quality problems
- Procurement and purchase of energy commodity

What Services Can An ESCo Provide?



- Walk-through energy audit
- ✓ **Comprehensive energy audit**
- ✓ **Design and specification of new equipment**
- ✓ **Vendor of energy efficiency equipment**
- ✓ **Installation/construction management**
- ✓ **Performance guarantees**
- ✓ **Ongoing maintenance**
- Training of personnel
- Measurement and verification of project performance
- Financing
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- Shared Savings Agreement
 - Fixed payment
 - One-time verification
 - Taxable or tax-exempt
 - Variable payment
 - Requires measuring and monitoring
 - More expensive

Common Performance Contracts

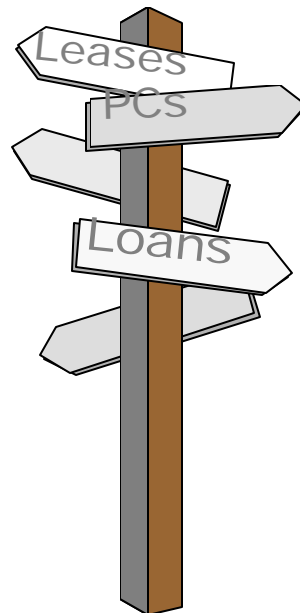


- **Guaranteed Savings Agreement**
 - Can separate financing from technical performance
 - **Most commonly used for Public Sector**
- **Own-Operate**
 - ESCo owns facility and sells back “output”
- **“Chauffage”**
 - Buy end-result, i.e., lumens or ambient temperature

Related but Independent Documents

- Project Development Agreement
- Energy Services Agreement
- Finance Agreement

Private Sector Financing



Why Companies Ask for “Off Balance Sheet Financing”?



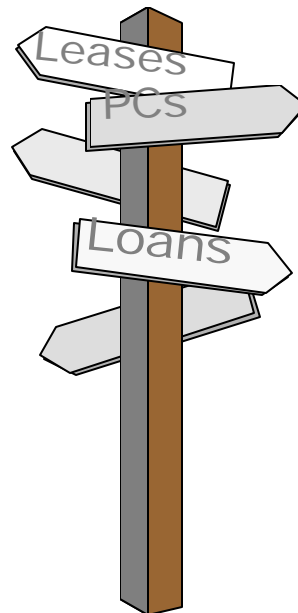
- **No Capital Budget for Energy Project**
 - Freeze on Capital Spending
 - Competing with Other Projects
- **Pay for Project from Operating Expenses**
 - Cumbersome Capital Budget Process
- **Restrictions on New Debt**
 - Internal Restrictions
 - Over-leveraged
 - Covenants with Existing Lenders

What Qualifies as “Off Balance Sheet Financing”?



- Operating Leases
- True Performance Contracts
- Rental Agreements
- “Project Financings”
 - Large Projects

Tax-Exempt Lease-Purchase Agreements (AKA Municipal 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***
- You may already be leasing something!

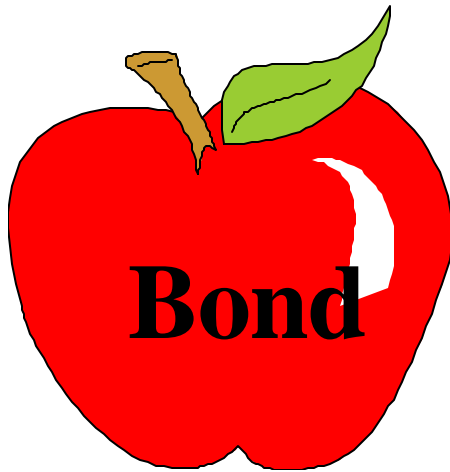
Fast and Easy!!!

Tax-Exempt Lease-Purchase



- Three Considerations
 - **Legal**
 - Authority
 - Voter Approval Issues
 - Financial Reporting
 - GAAP/GASB
 - Internal Accounting
 - “Materiality”

When Is 5% Not 5%?



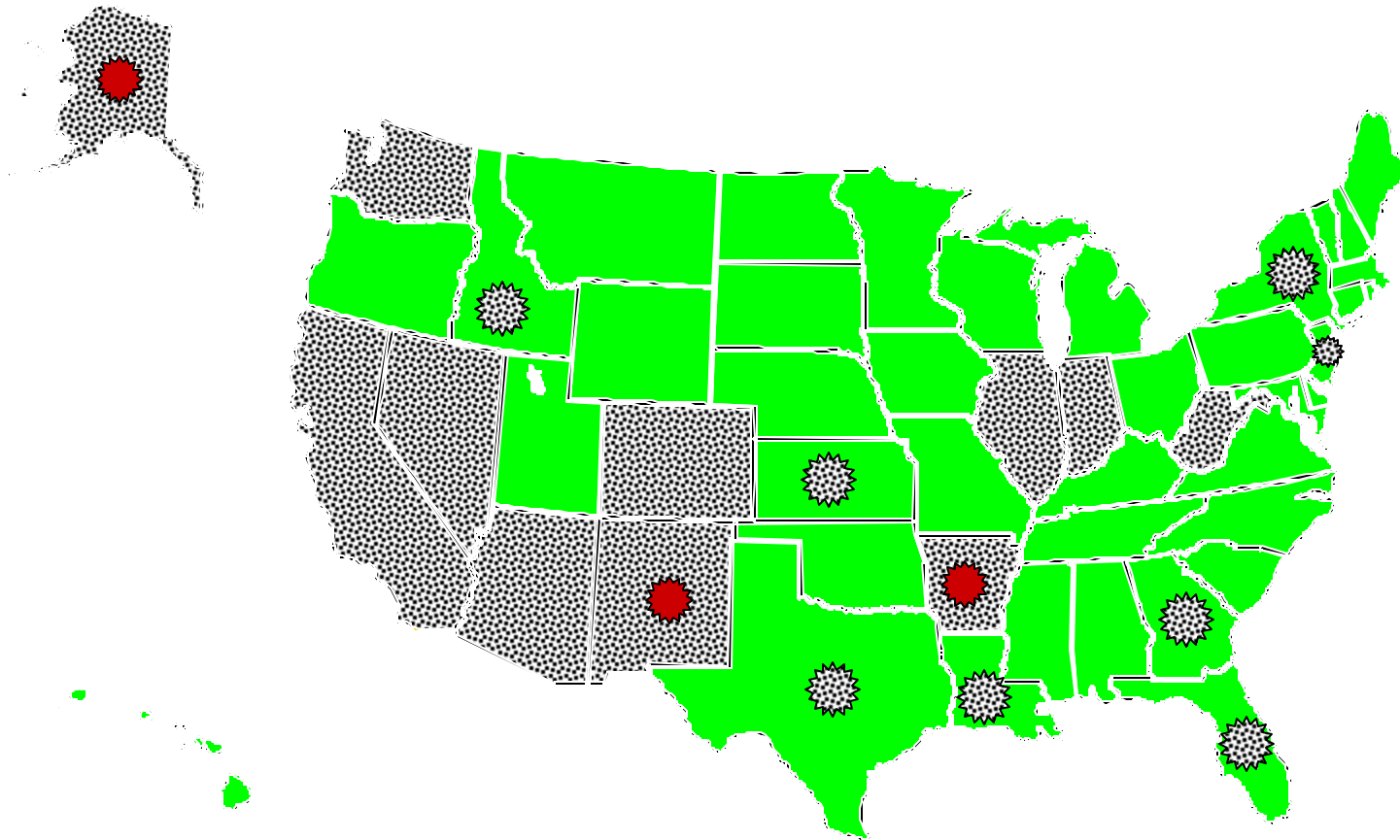
Plus Fees






Fees Included



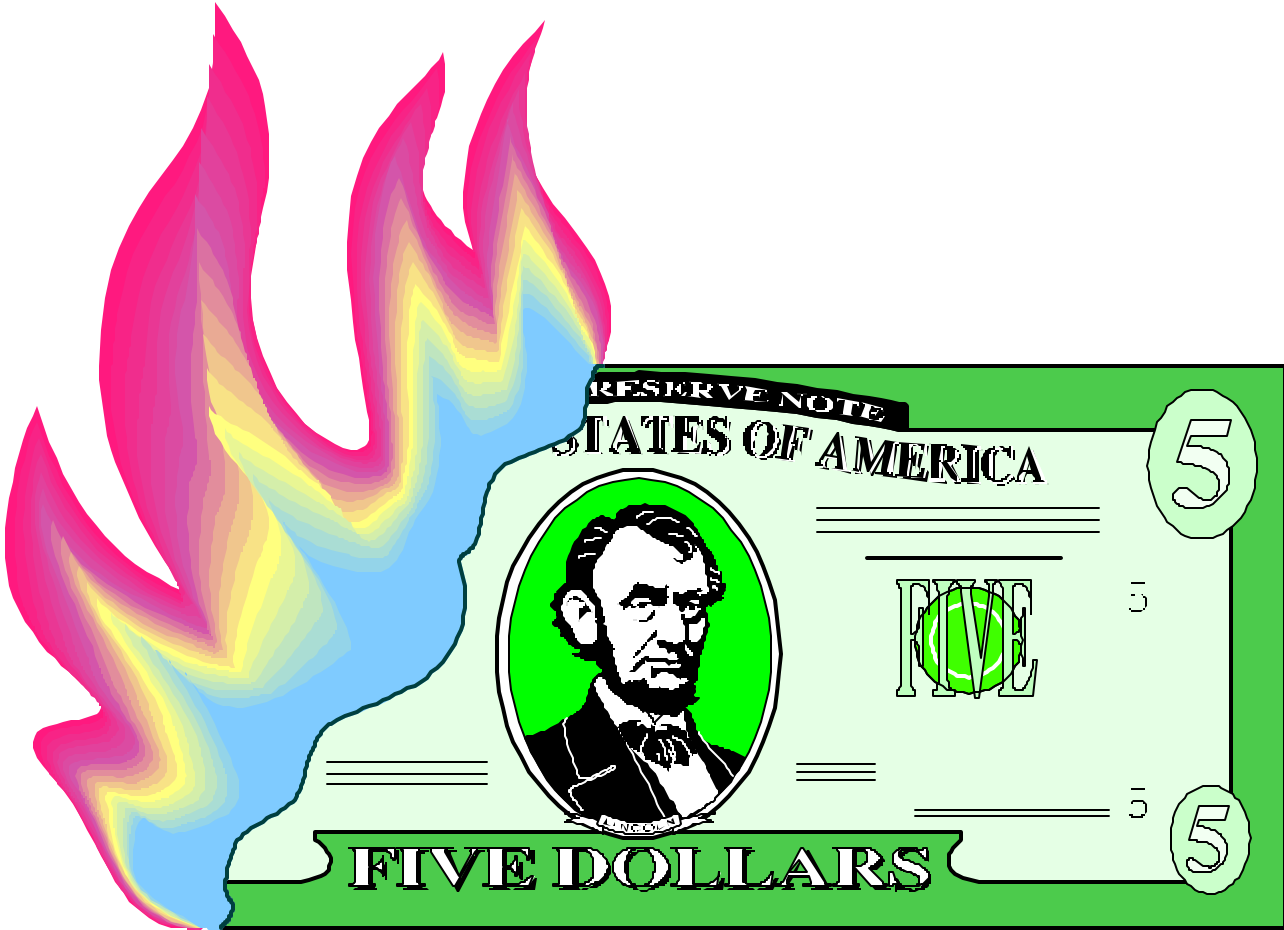
Tax-Exempt Lease-Purchase Financing by State



-  Few or no barriers
-  Check with advisors
-  Some legal issues

An Incomplete Listing
(for illustrative purposes only)

Quantifying the cost of Delay



Energy Efficiency: *A Cash Flow Opportunity*



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.



Version 1.1

Please send any comments to [Melissa Payne, ENERGY STAR National Manager, at \[payne.melissa@epa.gov\]\(mailto:payne.melissa@epa.gov\)](mailto:Melissa.Payne@epa.gov).

[Disclaimer](#)

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

Use existing data

	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.

The 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

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:

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/ft ² .*
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

[Important Notice](#)

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Reset

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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:

\$1,512,000

without increasing today's capital and operating budgets.

Contribution that your operating budget can make towards energy improvements

\$1.51

/SF

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

Simple Payback

5

Year(s)

4

Month(s)

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

*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

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Cash Flow

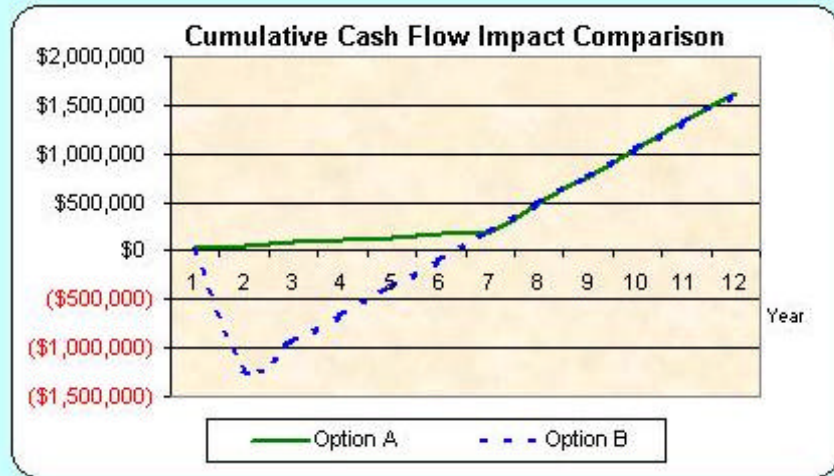


FIRST APPROXIMATION CASH FLOW OPPORTUNITY

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

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

Cash Flow

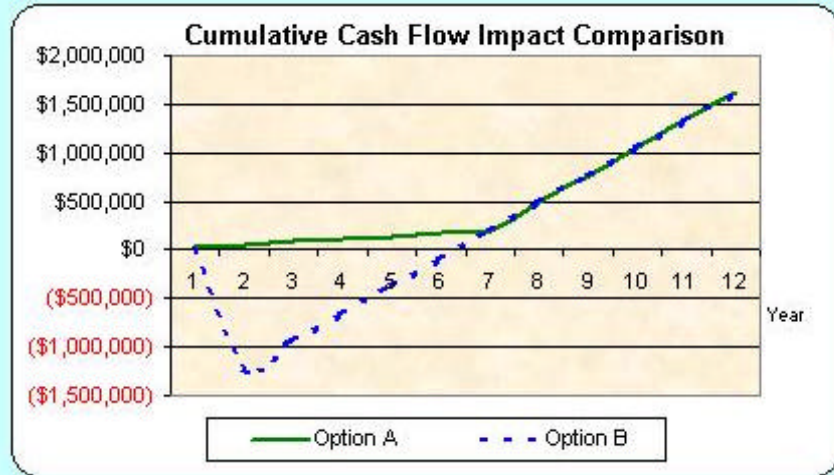


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Cost of Delay



FIRST APPROXIMATION COST OF DELAY

Comparative Interest Rate Analysis

Use Cash Flow Values

Interest rate of immediate financing

5.00 %

Interest rate of a lower financing

4.00 %

Cost of the equipment

\$1,512,000

Simple payback

5 year(s)

4 month(s)

Potential annual savings

\$285,000

Term of financing

7 year(s)

Lower interest rate savings

\$51,400

Amount lost in utility bills

\$23,800 / month

Break-Even Point

2.2 month(s)

Opportunity cost if delayed 12 months*

15.4%

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)

*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 above. To close the spreadsheet, click the Save & Exit button on the CFO Calculator toolbar.

Important Notice

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Reminder



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How ENERGY STAR Can Help



- Peer Information
 - Similar situations that met with success
 - Impact of sharing the benefits
- Expert support with your financing process
- Assist with presentations to decisionmakers

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

Summary



- Significant cost savings are possible from energy efficiency projects
- Many projects are delayed or prevented due to financial concerns
- Third-party financing can provide funds for these projects
- Delaying projects is expensive
- ENERGY STAR can help identify third party financing that works for you

For More Information...



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- Catalyst Financial Group, Inc. is an EPA contractor working for ENERGY STAR
- E-mail nzabler@catalyst-financial.com
- Call the ENERGY STAR Hotline at 1-888-STAR-YES (1-888-782-7937)
- Visit www.energystar.gov