Financing Energy Efficiency Upgrades with ENERGY STAR

Neil Zobler, President
Catalyst Financial Group
In Support of EPA’s ENERGY STAR® Program
2012
Overview

- ENERGY STAR
- Market sectors
  - Tax-exempt versus taxable
  - Accounting 101
- Energy Savings Performance Contracting
- Financing Options Summary
- ENERGY STAR tools and resources
- How the economic climate is affecting energy efficiency project financing
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 80% of all U.S. households
Opportunities in Buildings

- Commercial buildings and industrial facilities generate over **50 percent** of U.S. greenhouse gas emissions¹

- **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

¹ From stationary sources (excludes transportation sector)
Market Sectors

- Residential (Consumer)
- Commercial and Industrial (Taxable)
- Municipal (Tax Exempt)
  - Municipalities, Universities, Schools, and Hospitals (MUSH)
- Federal
Taxable vs. Tax Exempt

- Tax exempt = lower interest
  - No Federal Income tax on interest earned
- Public Sector can issue tax exempt
  - Eminent Domain
  - Taxing Powers
  - Police Powers
- Private Sector must go through Conduit Agency to issue tax exempt
- Public sector does not pay taxes
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
Energy Savings
Performance
Contracts
What is Energy Performance Contracting (EPC)?

“EPC is a turnkey service, sometimes compared to design/build construction contracting which provides customers with a comprehensive set of energy efficiency, renewable energy and distributed generation measures and often is accompanied with guarantees that the savings produced by a project will be sufficient to finance the full cost of the project.”

What is Energy Performance Contracting (EPC)?

A typical EPC 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 a Performance Contract

Related but Independent Documents

- Project Development Agreement
- Energy Services Agreement
- Finance Agreement

Guaranteed Savings Agreement is the most common
Types of Energy Performance Contracts

- Guaranteed Savings Agreement
- Managed Energy Savings Agreement (MESA)
  - Investment Fund pays the building owner’s on-going utility bill directly 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 savings
Financial Products: Qualified Energy Conservation Bonds (QECB)’s
Qualified Energy Conservation Bond (QECB) Summary

• Qualified State, Tribal and Local Gov’ts
  – Low Cost: US Treasury Subsidy
  – ~$2.5 B left on original $3.2B capacity

• IRS Notice 2012-44
  – 20 percent test
    • “Reasonable and consistently applied method…”
    • “…actual and expected energy consumption…”
    • “…rely on independent expert…”
    • “…ASHRAE level 4 audit or…building energy use simulation techniques and estimating software, including…”
    • “…encouraged to…use ENERGY STAR Portfolio Manager software to establish energy baselines and track…performance.”
  – Defines “Green Community Program”

Link to IRS notice: www.irs.gov/pub/irs-drop/n-12-44.pdf
Financial Products: Loans
Loan Primer

- Common Features
  - Long or Short Term
  - Interest Rates Vary
    - Term
    - Type
    - Size
    - Risk
  - Secured or Unsecured
  - Bank Loans Often:
    - Require Compensating Balances
    - Have Restrictive Covenants
Financial Products: Commercial Leases
Definition of a Lease

“a contract in which the right to use a specified asset is conveyed, for a period of time, in exchange for consideration”

- Financial Accounting Standards Board (FASB)

Kind of lease depends on which agency is looking at it (FASB, IRS, Legal)
Financing Methods (by Size of Firm)

- **Very Small (<51 emps.):**
  - Term Loan: 10.4%
  - Lease: 6.4%
  - Line of Credit: 28.1%
  - Cash: 54.8%

- **Small (51 - 100):**
  - Term Loan: 13.3%
  - Lease: 31.3%
  - Line of Credit: 29.5%
  - Cash: 25.8%

- **Med. (101 - 1,000):**
  - Term Loan: 7.2%
  - Lease: 36.5%
  - Line of Credit: 29.6%
  - Cash: 25.4%

- **Large (>1,000 emps.):**
  - Term Loan: 3.9%
  - Lease: 33.6%
  - Line of Credit: 13.6%
  - Cash: 48.0%

*Source: Global Insight*
Leasing: “Creative Financing”
Why do Customers Lease?

• Effective Tax Strategy
  – Avoid Depreciation

• Effective Financing Strategy
  – May Avoid Debt Issues
  – Off balance sheet treatment currently under review - Financial Accounting Standards Board (FASB)

• Allow “structuring”
  – Skip Payments
  – Step Payments
  – Arrears or Advance Payment

• Flexible!
# Lease Classifications

<table>
<thead>
<tr>
<th>Who?</th>
<th>Why?</th>
<th>What's it Called?</th>
</tr>
</thead>
<tbody>
<tr>
<td>FASB</td>
<td>Financial Reporting</td>
<td>Capital Lease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operating Lease</td>
</tr>
<tr>
<td>IRS</td>
<td>Paying taxes</td>
<td>Non-Tax Lease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tax Lease</td>
</tr>
<tr>
<td>Legal</td>
<td>Perfecting Ownership</td>
<td>Lease intended as a security</td>
</tr>
<tr>
<td></td>
<td></td>
<td>True Lease</td>
</tr>
</tbody>
</table>

FASB: Financial Accounting Standards Board
IRS: Internal Revenue Service
Legal: Perfecting Ownership

- **Capital Lease**: For leases that are considered financial and tax liabilities.
- **Operating Lease**: For leases that are not considered financial and tax liabilities.
- **Non-Tax Lease**: Lease intended as a security.
- **Tax Lease**: Lease intended as a security with tax implications.
Topic 840 in FASB's new Accounting Standards Codification

• Operating Lease Classification gone
  – No more “off balance sheet” treatment

• New Categories
  – Right to use (asset)
  – Lease Liability (liability)

• 2016 considered the likely effective date
  – Two year comparison statements means treatment starts in 2015
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*
- Clients probably leasing something now

**Fast and Easy!!!**
“We are paying for energy efficiency projects whether or not we do the projects!”
Financial Value Tools

- Building Upgrade Value Calculator – Commercial Real Estate
- Financial Value Calculator – Corporate Real Estate
- Cash Flow Opportunity Calculator – All Sectors
Quantifying the COST OF DELAY
What Does the Cash Flow Opportunity 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

Don’t forget to enable the Macros

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 embedded 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 use 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 CS. 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.
"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)

<table>
<thead>
<tr>
<th>User Generated Categories</th>
<th>SF</th>
<th>Costs ($) - All fuel types</th>
<th>$/SF</th>
<th>Savings target (%)</th>
<th>Potential annual savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter Category Name Here</td>
<td>0</td>
<td>$0</td>
<td></td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Enter Category Name Here</td>
<td>0</td>
<td>$0</td>
<td></td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

Total SF
Total energy costs ($) - all fuel types
$/SF
Weighted savings target (%)
Total potential annual savings ($)

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“Data Entry” Tab

<table>
<thead>
<tr>
<th>User Generated Categories</th>
<th>SF</th>
<th>Annual energy costs ($) - all fuel types</th>
<th>$/SF</th>
<th>Savings target (%)</th>
<th>Potential annual savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School #1</td>
<td>350,000</td>
<td>$1,000,000</td>
<td>$2.86</td>
<td>25.00</td>
<td>$250,000</td>
</tr>
<tr>
<td>Middle School #3</td>
<td>200,000</td>
<td>$525,000</td>
<td>$2.63</td>
<td>20.00</td>
<td>$105,000</td>
</tr>
</tbody>
</table>

| Total SF                  | 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

Potential Annual Savings = Cash Flow Opportunity

<table>
<thead>
<tr>
<th></th>
<th>More efficient facility(s)</th>
<th>Less efficient facility(s)</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual energy costs</td>
<td>$1,000,000</td>
<td>$525,000</td>
<td>$1,525,000</td>
</tr>
<tr>
<td>Potential annual savings</td>
<td>$250,000</td>
<td>$105,000</td>
<td>$355,000</td>
</tr>
</tbody>
</table>

What Can $355,000.00 of Annual Savings Buy?

- Assuming an interest rate of 5.00% for a term of 7 years, 90.0% of the savings can 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
- Additional Funding Required: $188,380
- Contribution that your operating budget can make towards energy improvements: $9,419
- Simple Payback: 5 years

Important Notice: Consider blending short- and long-term projects to maximize use of the savings.
**Cash Flow** Tab

### COST OF DELAY and CASH FLOW ANALYSIS

<table>
<thead>
<tr>
<th>Amount Financed</th>
<th>$1,883,800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple payback</td>
<td>5 years</td>
</tr>
<tr>
<td>Interest rate</td>
<td>5.00%</td>
</tr>
<tr>
<td>Financing term</td>
<td>7 years</td>
</tr>
<tr>
<td>Year(s) postponed</td>
<td>1 years</td>
</tr>
<tr>
<td>Project cost increase due to postponement</td>
<td>5.00%</td>
</tr>
<tr>
<td>Estimated energy cost change in year 2</td>
<td>10.00%</td>
</tr>
<tr>
<td>Annual change in energy costs after year 2</td>
<td>2.50%</td>
</tr>
<tr>
<td>Estimated energy savings in year 1</td>
<td>75.00%</td>
</tr>
</tbody>
</table>

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

**Net Present Value of Option A (Fast Track Financing):** $857,589  
**Net Present Value of Option B (Waiting for Cash):** $455,734

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

### Table: Cash Flow Analysis

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$231,726</td>
<td>($319,505)</td>
<td>($30,329)</td>
<td>($30,329)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>2</td>
<td>$412,391</td>
<td>($319,505)</td>
<td>$52,686</td>
<td>$54,556</td>
<td>$305,254</td>
<td>($2,002,939)</td>
<td>($1,773,596)</td>
<td>($1,773,596)</td>
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<tr>
<td>3</td>
<td>$422,701</td>
<td>($319,505)</td>
<td>$157,752</td>
<td>$441,270</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>4</td>
<td>$433,269</td>
<td>($319,505)</td>
<td>$131,763</td>
<td>$271,516</td>
<td>$433,269</td>
<td>$0</td>
<td>($217,726)</td>
<td>($457,262)</td>
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<tr>
<td>5</td>
<td>$444,101</td>
<td>($319,505)</td>
<td>$124,595</td>
<td>$396,111</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>6</td>
<td>$455,303</td>
<td>($319,505)</td>
<td>$135,898</td>
<td>$451,909</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>7</td>
<td>$466,563</td>
<td>($319,505)</td>
<td>$147,828</td>
<td>$600,787</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td>8</td>
<td>$476,248</td>
<td>$0</td>
<td>$478,248</td>
<td>$1,157,133</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Important Notice**
### Cost of Delay - Comparative Interest Rate Analysis

<table>
<thead>
<tr>
<th>Month</th>
<th>Balance at beginning of month</th>
<th>Amount lost in monthly utility bills</th>
<th>Balance at end of month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$188,900</td>
<td>$31,400</td>
<td>$157,400</td>
</tr>
<tr>
<td>2</td>
<td>$157,400</td>
<td>$31,400</td>
<td>$126,000</td>
</tr>
<tr>
<td>3</td>
<td>$126,000</td>
<td>$31,400</td>
<td>$94,600</td>
</tr>
<tr>
<td>4</td>
<td>$94,600</td>
<td>$31,400</td>
<td>$63,200</td>
</tr>
<tr>
<td>5</td>
<td>$63,200</td>
<td>$31,400</td>
<td>$31,700</td>
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<tr>
<td>6</td>
<td>$31,700</td>
<td>$31,400</td>
<td>$300</td>
</tr>
<tr>
<td>7</td>
<td>$300</td>
<td>$31,400</td>
<td>($31,100)</td>
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<tr>
<td>8</td>
<td>($31,100)</td>
<td>$31,400</td>
<td>($62,500)</td>
</tr>
<tr>
<td>9</td>
<td>($62,500)</td>
<td>$31,400</td>
<td>($94,000)</td>
</tr>
<tr>
<td>10</td>
<td>($94,000)</td>
<td>$31,400</td>
<td>($125,400)</td>
</tr>
<tr>
<td>11</td>
<td>($125,400)</td>
<td>$31,400</td>
<td>($156,800)</td>
</tr>
<tr>
<td>12</td>
<td>($156,800)</td>
<td>$31,400</td>
<td>($188,200)</td>
</tr>
</tbody>
</table>

*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.*

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**Important Notice**
Cash Flow Opportunity Calculator

www.energystar.gov
Cash Flow Opportunity Calculator

Or, go directly to:
http://www.energystar.gov/ia/business/cfo_calculator.xls

Scroll down to…
The “Great Recession”

How has it affected EE Projects?
Project Structure

• Shorter terms
  – Over 15 years difficult for public sector (prefer 12)
  – Over 7 years difficult for private sector (prefer 5)

• Regulators
  – Tell lenders to lend more, however,
  – Stricter rules regarding “performing loans”
    • Debt to Income Ratio

• Community Banks playing larger role
  – Unfamiliar with the business

• DEBT is a “four letter word”
Q3 2012 Equipment Leasing & Finance
U.S. Economic Outlook

• 2012 marked by continued domestic and foreign headwinds stalling growth.
  – The negative effects of a potential “fiscal cliff” dented consumer confidence and caused businesses to hold-off on hiring and investment.
  – Eurozone crisis and slowdown in emerging markets decreased demand for U.S. exports abroad
  – The housing sector rebound, and the “energy renaissance” are reasons for cautious optimism
  – US economy will experience “sideways movement” during the rest of 2012 and in first half of 2013
  – Revised 2012 outlook is 2.2% growth

• In 2013 growth will remain in a similar range of 2.0%-2.3%.
  – As more workers re-enter the workforce, unemployment will likely remain above 8.0% through 2012.
  – Expect inflation to move up slightly by the end of the year, and average 2.1% for the year.
  – Biggest risks for 2012 are a surge in oil prices resulting from rising tensions in the Middle East, a disorderly default on Greek debt, and a “hard landing” scenario in China.
  – The top risk for 2013 is a “fiscal cliff” scenario.

Q3 2012 Equipment Leasing & Finance
U.S. Economic Outlook

• Credit Supply & Pricing:
  – Generally improving, though small businesses have difficult time accessing capital.
  – The latest Fed survey of banks’ senior lending officers indicated that loosening of standards on commercial & industrial (“C&I”) loans has resumed after a slight tightening in the first quarter.
  – Interest rates remain near all-time lows
  – Capital is likely to remain inexpensive for the foreseeable future.

• Credit Demand:
  – C&I loans increased 13% year-year, including a 3.4% jump in the past three months.
  – For the third straight quarter, banks reported a strong increase in demand for capital after a drop in the fourth quarter of 2011
  – The percentage of small businesses making capital investments edged up to 55%—more than double the percentage of small companies planning capital expenditures.
  – The Thomson Reuters/PayNet Small Business Lending Index is up 15.3% year-year, indicating that demand for commercial loans is still growing.
Key Signposts For Equipment Investment: Three-to-Six-Month Outlook

Note: *Construction equipment* investment is projected to continue to grow at a strong pace (15%+) as the housing market rebounds.

Questions?

Email: buildings@energystar.gov
Visit: www.energystar.gov

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