



A program of MINNESOTA
WASTE WISE



Business Energy Efficiency Implementing Successful Projects

Saving Energy – The Potential

You've heard it before ...

B I G

The Continuum

Know how you use energy

Get an energy analysis done

Do the easy things now

Low- and no-cost actions

Identify opportunities

Energy Star's Portfolio Manager

Develop a plan

Energy Star's Portfolio Manager

Make the financial case

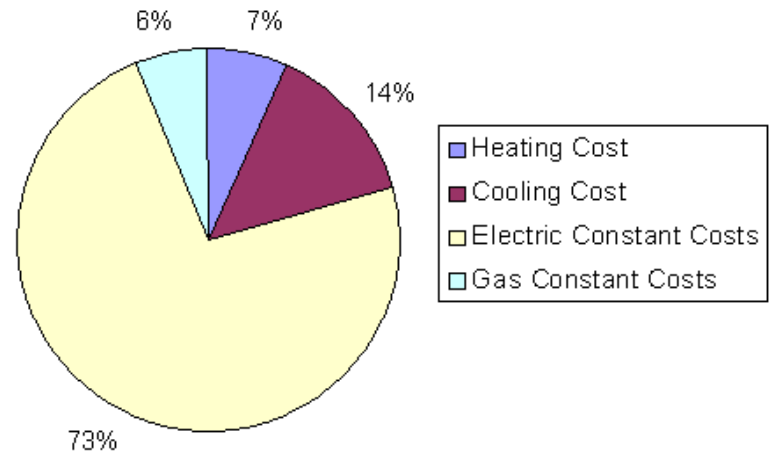
Crunch the \$'s to show investment potential



Know How You Use Energy

- Pay attention to energy bills
 - Chart for a year or more & look for anomalies
 - Determine energy use index (EUI)
 - Look for opportunities to reduce usage at charge points (peak demand, etc.)

- Use energy analysis programs
 - Online energy audit
 - On-site energy audit



Guidelines for Energy Management

The 7 Steps of an Energy Management Plan

Step 1: Make a commitment

Step 2: Assess performance

Step 3: Set goals

Step 4: Create action plan

Step 5: Implement action plan

Step 6: Evaluate progress

Step 7: Recognize Achievements

Source: http://www.energystar.gov/index.cfm?c=guidelines.guidelines_index



Case Study

Auto Dealer – LED Lighting Project

Total Project Cost: **\$45,194**

Total Utility Rebates: **\$22,304**

Estimate Annual Energy Savings: **\$14,206**

Payback term: **1.61 years**





Planning for Upgrade

Planning for Upgrade

Analyze Energy Use

Identify Opportunities

Getting Bids



Vetting Contractors

Ask the right questions

- What % of work includes EE specs?
- Are they up-to-speed on product energy efficiency standards?
- Do they know utility rebates well?
- Will they complete rebate paperwork?

Set Expectations

- Bids with qualifying efficiency standard
- Life expectancy of equipment provided
- Provide expected utility rebate as part of bid
- Provide 3 references for like EE upgrades





Making the Financial Case

Simple Payback



1.61 years

Return on Investment

$$\begin{aligned} ROI &= \frac{(\text{Savings} - \text{Investment})}{\text{Investment}} \\ &= \frac{(\$142,060 - \$22,890)}{\$22,890} \end{aligned}$$

$$ROI = 520\%$$

Is this a good investment?

$$\text{Rate of Return} = 62.5\%$$





Finding the Money

Financial Incentives

Types of Financial Incentives

Utility Rebates

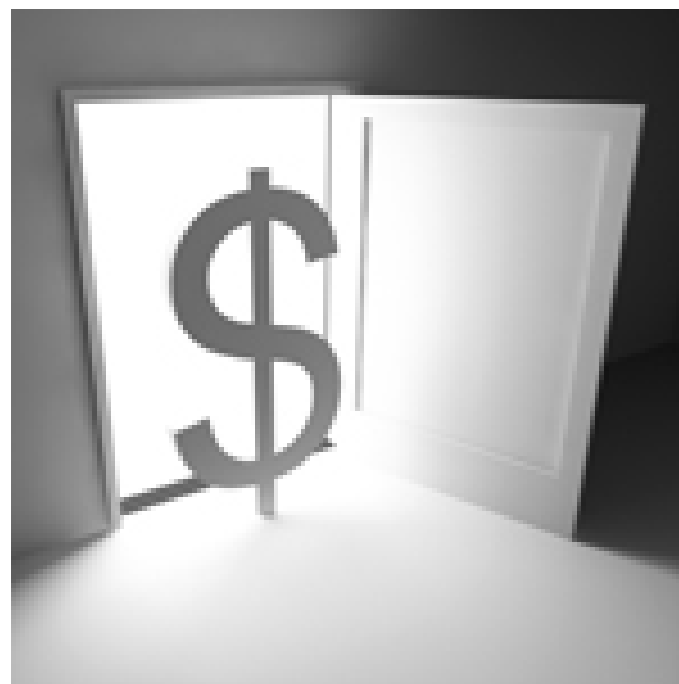
Government Grants

Low-Interest Loans

Non-profit Grants

Federal Tax Deductions

Other Opportunities



Electric Utility Rebates

Cooling

Lighting

Compressed Air

Motors

Process Efficiency

Recommissioning

Energy Analysis

Efficiency Controls

Saver's Switch

Energy Design Assistance

Efficiency Proposal

Electric Rate Savings

Energy Efficient Building

Data Center Efficiency



Natural Gas Utility Rebates

Commercial Heating

Commercial Real Estate

Custom

Energy Analysis

Efficiency Controls

Natural Gas Rate Savings

Process Efficiency

Recommissioning

Energy Design Assistance

Efficiency Proposal

Energy Efficient Buildings



Other Opportunities

- City or County grants & loans



- Regional EDA Opportunities



- State Grants



- Federal Grants



PACE

Property Assessed Clean Energy

Any city, county, township, Economic Development Authority or Housing and Redevelopment Authority can start up and implements a PACE program.





Where to Turn for Help

Useful Resources in Minnesota

Energy Smart

Center for Energy and Environment (CEE)

Minnesota Technical Assistance Program (MnTAP)

Retired Engineers Technical Assistance Program (RETAP)

Clean Energy Resource Teams (CERTs)

Eureka Recycling

Minnesota Division of Energy Resources

Your energy utilities

Your city economic development department

Your county or regional economic development programs

Useful Resources (Nationwide)

U.S. EPA Energy Star Program

U.S. DOE -- Energy Efficiency & Renewable Energy

U.S. DOE -- Industrial Technologies Program

Rocky Mountain Institute (CO)

Focus on Energy (WI)

Flex Your Power (CA)

Alliance to Save Energy (Washington, D.C.)

ASHRAE

Building Owners and Managers Association (BOMA)



Questions?

Contact Info



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