



Speaking the CFO's Language: Successfully Pitching Energy Efficiency to Decision-Makers

May 8, 2014

11:15 AM – 12:30 PM

Overview and Agenda

- Welcome and Overview
- Better Buildings Partner Strategies for Obtaining Executive-Level Support for Energy Efficiency
 - USAA Real Estate Company
 - Eastman Chemical Company
 - University of California, Irvine
- Facilitated Discussion
- Additional Resources

Today's Speakers



USAA Real Estate Company

- Brenna Walraven, Managing Director, Head of Property Operations, USAA Real Estate Company

EASTMAN

- Sharon Nolen, Manager, Corporate Energy Program, Eastman Chemical Company



- Wendell Brase, Vice Chancellor, University of California, Irvine and Chair, UC Climate Solutions Steering Group

Brenna Walraven
Managing Director, Head of Property Operations
USAA Real Estate Company

▪ORGANIZATION TYPE

- Commercial Real Estate

▪BARRIER

- Difficulty garnering approval for investments in building energy efficiency due incomplete understanding of financial and other benefits

▪SOLUTION

- Developed a tool to convert the financial and non-financial value of energy efficiency upgrades into metrics that are meaningful in a financial and business context

▪OUTCOME

- More projects funded leading to increased portfolio-wide energy savings; improved energy efficiency; increased asset value, net operating income, and tenant satisfaction

▪POLICIES

- Corporate commitment to continuous process improvement approach drives ongoing efforts to refine, innovate and make changes when needed for improved financial and environmental performance
- Opportunities for energy efficiency/sustainability retrofits are assessed as part of normal underwriting when making investments in properties

▪PROCESS


- The USAA Real Estate Company Operations Team needed a better process for converting the expected results of energy improvements and retrofits into meaningful metrics for financial decision makers.
- Created an Excel-based software tool to help property managers (PMs) and asset managers (AMs) to understand, analyze, and communicate these financial benefits when planning and proposing energy improvement projects
- Partnered with EPA's ENERGY STAR® program and the Building Owners and Managers Association International (BOMA) to further enhance the tool (creating the Building Upgrade Value Calculator)

▪TOOLS & RESOURCES

- The Building Upgrade Value Calculator (BUVC) tool can be used to calculate key financial metrics such as: energy cost reduction, simple payback, internal rate of return (IRR), return on investment (ROI), net present value (NPV), and the potential impact on asset value
- Also summarizes financing details (as appropriate) and indicates potential impact on ENERGY STAR score
- The tool generates a summary letter containing all calculated values, and this letter can be presented (and edited to tailor) to financial decision makers as part of a project proposal/recommendation

▪OUTREACH

- Tool hosted on EPA's ENERGY STAR website
- Worked with BOMA to add a link and description of the tool on BOMA's website
- Included information on the tool in speaking and training efforts, such as the BOMA Energy Efficiency Program (BEEP)
- Made all property managers aware of the tool; offered trainings and encouraged its use in the development of project proposals
- Operations Team regularly works with property managers and asset managers to tailor the tool to meet specific company or investment criteria, and to reinforce the benefits of tool and its analysis.



ENERGY STAR

Building Upgrade Value Calculator

For Office Properties

Version 1.0

[Use Sample](#)

[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

Square Footage

Annual Utility Bill

Financial Information

Analysis Term (years)

Discount Rate

Capitalization Rate

If Financing.

Loan Period (in years)

Number of Loan Payments (per year)

Interest Rate


Energy Project Information

Energy Efficiency Measure	Cost	Annual Savings
Sub Total	\$0	\$0

Additional Annual Savings for Labor and Supplies

ENERGY STAR Rating

Rebates (if any)



ENERGY STAR

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Property Information

Property Name	Perimeter
Square Footage	177,185
Annual Utility Bill	\$288,731

Financial Information

Analysis Term (years)	10
Discount Rate	8%
Capitalization Rate	6%
If Financing,	
Loan Period (in years)	0
Number of Loan Payments (per year)	12
Interest Rate	8%

Energy Project Information

Energy Efficiency Measure	Cost	Annual Savings
Occupancy sensors	\$4,919	
Light timers in elevators	\$7,449	
Building wide lighting retrofit	\$145,599	
		\$50,450
Sub Total	\$157,967	\$50,450


Additional Annual Savings for Labor and Supplies

ENERGY STAR Rating

Rebates (if any)

Calculate

Clear



ENERGY STAR

Building Upgrade Value Calculator

Financial Results

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According to the U.S. EPA, investing in energy performance can improve the financial performance of commercial real estate. For the energy efficiency measures you entered, EPA estimates that if all the benefits were to flow to the bottom line, your property would:

- Reduce annual operating expense by: \$ 50,450
- Improve net operating income by: \$ 50,450
- Enhance asset value by: \$ 840,833

Generate Letter

Financial Summary

Net Investment Cost	\$ 157,967
Net Investment Cost per SF	\$ 0.89
Simple Payback Period (SPP)	3.13 years
Return On Investment (ROI)	32%
Net Present Value (NPV)	\$180,557
Internal Rate of Return (IRR)	30%
Potential Impact on Net Operating Income (NOI)	\$ 50,450
Potential Impact on Asset Value	\$ 840,833

Energy Project Summary

	Before Upgrade	After Upgrade	Estimated Savings
ENERGY STAR Rating	60	73	13 points
Annual Energy Cost	\$ 288,731	\$ 238,281	\$ 50,450
Annual Energy Cost per SF	\$ 1.63	\$ 1.34	\$ 0.28

September 17, 2013

Trey Guajardo
Asset Manager
9830 Colonnade Blvd., Suite 600
San Antonio, Texas 78230

Re: Energy Efficiency Upgrade Recommendation & Analysis

Dear Trey:

David Barros has performed a preliminary financial analysis of energy performance improvements for Perimeter using the US EPA's Building Upgrade Value Calculator, and would like to present the following information regarding capital investments that will improve the overall performance of this property:

- Occupancy sensors
- Light timers in elevators
- Building wide lighting retrofit

The estimated cost of the investment would be \$157,967 or \$0.89 per square foot, after applicable rebates. Based upon our calculations, we estimate that these investments would result in the following projected financial outcomes:

- Annual energy savings of \$50,450
- Total annual savings of \$50,450 or annual operating expense savings of \$0.28 per square foot
- Simple payback period of 3.13 years
- Return on Investment of 32%
- Net Present Value of \$180,557
- Internal Rate of Return of 30%

If all of these savings were to flow to the bottom line, they would represent a potential increase in Net Operating Income of \$50,450. Using the income approach to value, this translates into the potential addition of \$840,833 to Perimeter's asset value, at a capitalization rate of 6%.

We also estimate that the improvements would result in increasing the Perimeter's national energy performance rating from 60 to 73, which represents a 13 point improvement. This rating provides a comparison, against the national average, of a building's energy performance, and can serve as the foundation for a strategic approach to energy management that will optimize investments in energy efficiency. The rating system accounts for the impacts of year-to-year weather variations, as well as building size, location, and several operating characteristics to make a more objective and comparable assessment of energy performance.

Therefore, we recommend and request approval for these energy efficiency measures to improve Perimeter's overall performance. Please contact David Barrow to discuss this analysis and these proposed improvements. We look forward to speaking with you.

Sincerely,

Senior Property Manager

▪MEASURING SUCCESS

- Biggest way to measure the success is in the form of more approvals for energy investments
- Also know we're getting team members to think about energy efficiency differently – more strategically and in terms that support financial success for our assets and portfolio

▪OUTCOMES

- USAA Real Estate Company has steadily improved its energy efficiency as measured by:
 - Asset Level ENERGY STAR Ratings improvements
 - Asset Level Energy Consumption reductions
 - Portfolio Level ENERGY STAR Rating improvements
 - Portfolio Level Energy Consumption reductions
 - ENERGY STAR Leaders improvement

Sharon Nolen, PE, CEM
Manager, Corporate Energy Program
Eastman Chemical Company

EASTMAN



Speaking the CFO Language: Successfully Pitching Energy Efficiency to Decision Makers

Sharon L. Nolen, PE, CEM
Better Buildings Summit
May 8th, 2014

Who we are

- A global specialty chemical company headquartered in Kingsport, Tennessee
- Approximately 14,000 employees and 45 manufacturing sites around the globe
- Serving customers in approximately 100 countries
- A company dedicated to environmental stewardship, social responsibility and economic growth
- 2014 ENERGY STAR® Partner of the Year - Sustained Excellence Award
- 2014 Glassdoor Employees' Choice Best Places to Work (# 4)
- Combined 2013 revenue of \$9.4 billion



EASTMAN

A case for change

In 2010, Eastman decided to pursue an aspirational goal to inspire radical improvement

- Eastman made a public pledge to the DOE Better Buildings, Better Plants Program to reduce energy intensity
- The baseline for improvement was 2008, the year Eastman became an ENERGY STAR® Partner
- The existing program would fall short of what was needed to meet this ambitious goal



Executive level support

- Executive level support is needed for a successful energy program
- As Eastman's energy program was revamped in 2010, an Executive Steering Team was formed
 - Included three Executive Team members
 - Quarterly meetings with the corporate energy program manager

Bottom Line Impact

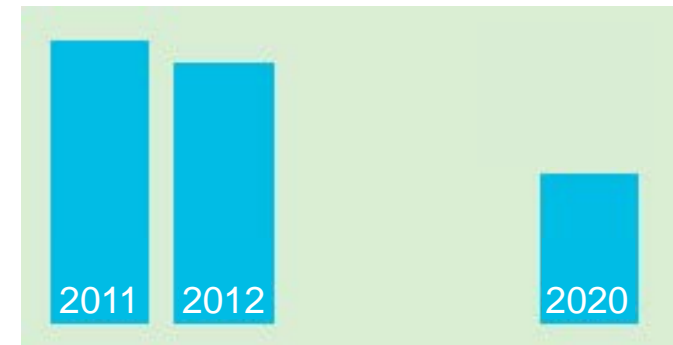
- Converting the benefit of energy efficiency projects to business-related measures can be a useful communication tool
- For example, annual cost savings can be presented as:
 - Increase in net income shown on the income statement
 - Increase in earnings per share
 - Equivalent increase in product sales (based on profit margin)
 - Value of freed system capacity (made available for growth)



Executive level support

Enhanced data analysis

- As the executive team members became increasingly involved, they challenged the energy team to develop quantitative information to:
 - Identify the major items affecting the measure
 - Assess the magnitude of each item
 - Evaluate progress towards the goal
- Efforts resulted in a tool to quantify the gap between the forecasted impact of current plans and the energy intensity goal
- It was shown that significant capital and expense projects would be required to meet the goal



Executive level support

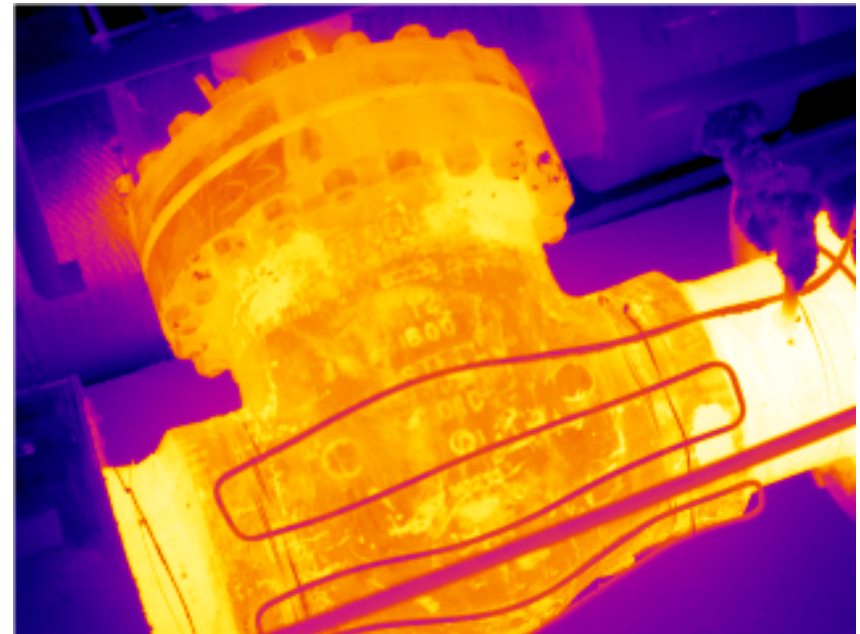
Capital project funding

- In 2010, no capital money was allocated specifically for energy efficiency projects
- Many good energy projects simply fell below the approval level when competing with other projects
- When shown a list of projects that had not been funded, the Steering Team immediately funded \$4.2M of energy projects
- Within two years, the capital energy budget grew to \$8M/year
- Led to increased interest in the energy program
 - Manufacturing areas recognized the additional avenue for funding
 - The energy team became a welcomed partner



Budget for expense projects

- The capital budget for energy projects is augmented with an expense budget for energy efficiency
- Expense projects help improve the energy efficiency of the sites primarily through
 - Leak repair
 - Insulation
 - Lighting improvements
 - HVAC
- Project completions are tracked to show progress and evaluate return



Link with other initiatives

Compliment the tangible benefits of energy projects with other corporate initiatives to gain additional support



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25 YEARS

- Safety – More efficient technology can result in:
 - Less lumen degradation → safer working conditions
 - Longer lamp life → employees will be working fewer hours at elevated heights
- Productivity – Group relamping results in more efficient use of labor (and more immediate energy savings)
- Sustainability
 - Sustainability is more closely connected to the businesses while the energy program is more closely tied to manufacturing
 - The sharing of connections and insights has proven valuable
 - The Executive Steering Team also links to the company's Sustainability Council with additional members of top management

Summary

- Establishment of a capital energy budget gives the energy program credibility and increases participation
- Show the impact of energy projects on business-related measures
- Build a portfolio of good projects and tie them to existing corporate initiatives

Questions?



EASTMAN

Wendell Brase

**Vice Chancellor, University of California, Irvine
Chair, UC Climate Solutions Steering Group**

Key Factors Behind Most Successful Programs

- Critical-path Factors for Energy Efficiency Investment
 - Senior management and governing board commitment
 - Carbon policy goals
 - Strategic plan and implementation plan
 - Dedicated capital source
 - Simple criteria for proposed projects

Obtaining Senior Management Commitment

- To speak the CFO's language, consider the following strategies:
 - Ask for one key financial feasibility metric
 - Propose projects with a track record of consistent, assured savings in comparable climates, organizations, and facilities
 - Cite, but don't over-emphasize or overstate, secondary benefits (beyond utility savings)
 - Take a portfolio, rather than project-by-project, approach

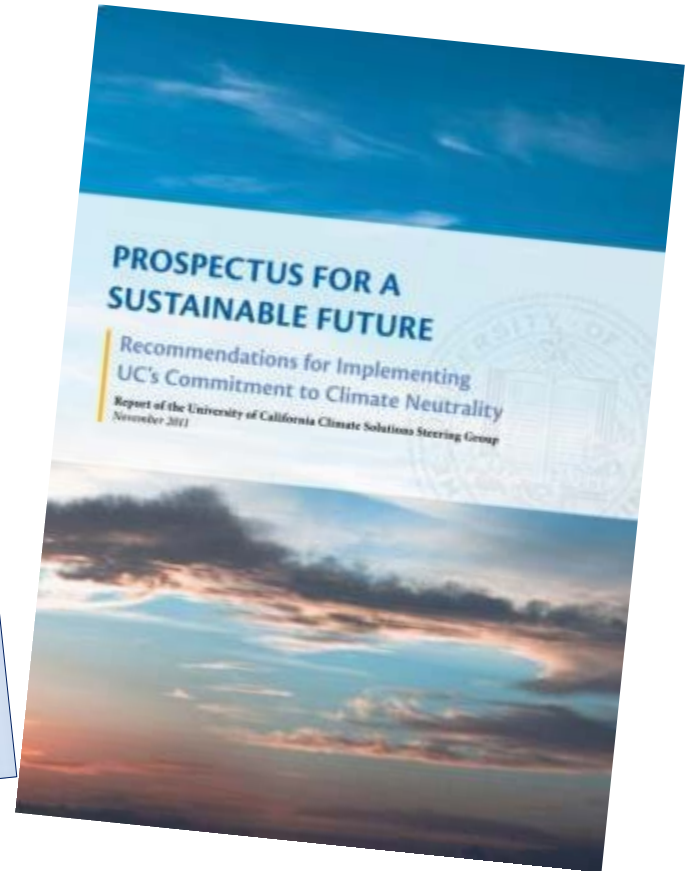
University of California Carbon Policy Goals

- 2014 - Reduce GHG emissions to 2000 levels
- 2020 – Reduce GHG emissions to 1990 levels
- 2025 – Carbon neutral

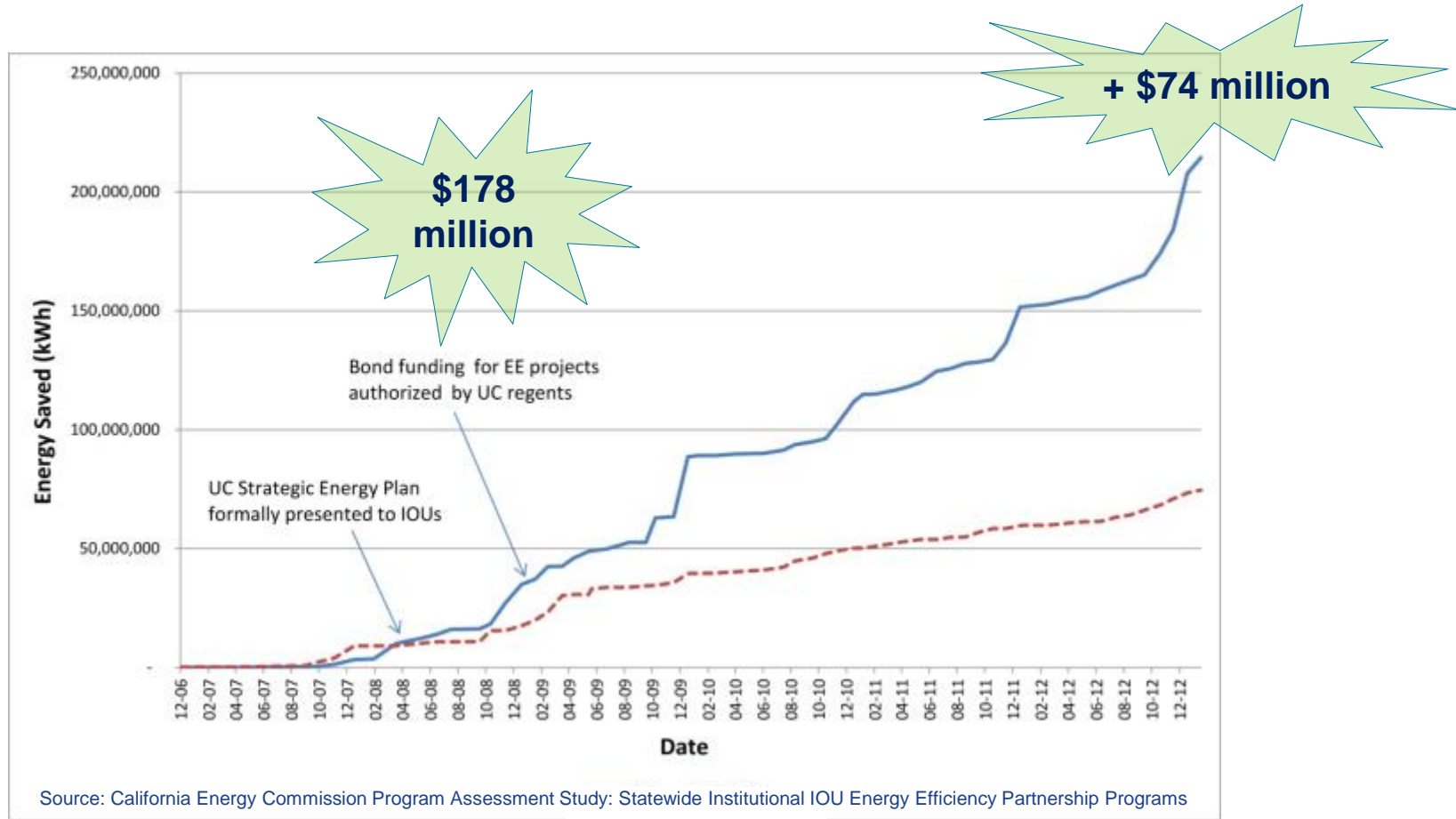


Biological Sciences 3 was 30% more efficient than California energy code when completed in 2008. After a Smart Labs retrofit in 2011, the building realized a 53% reduction in building systems energy use (HVAC and lighting).

Strategic Plan and Implementation Plan



Dedicated Capital Source



http://www.energydataweb.com/cpucFiles/pdaDocs/908/Statewide_Institutional_IOU_Energy_Efficiency_Partnership_Assessment%20Final%20Draft.pdf

Simple Criteria

- Prioritize “deep energy efficiency” projects
- Require debt-coverage ratios for project approval
 - 1.15 for “passive” retrofits
 - 1.4 for complex, new technology retrofits

The California Institute for Telecommunications and Information Technology was 20% more efficient than California’s energy code when completed in 2004. After a Smart Labs retrofit in 2011, the building realized a 58% reduction in building systems energy use (HVAC and lighting).



Other Important Factors

- Leadership grasp of true scale needed
- Access to debt financing



Engineering Hall was 30% more efficient than California's energy code when completed in 2009. After a Smart Labs retrofit in 2011, the building realized a 69% reduction in building systems energy use (HVAC and lighting).

Facilitated Discussion

Additional Resources

For More Information

- USAA Real Estate Company
 - [Implementation Model](#)
 - [Building Upgrade Value Calculator](#)
- Eastman
 - [Corporate Energy Efficiency Initiatives](#)
- University of California, Irvine
 - [Strategic Plan](#)
 - [Implementation Plan](#)
 - [Program Assessment](#)
 - [List of “Home Run” Projects](#)

Additional Questions? Feel Free to Contact Us

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