






Speaking the CFO's Language: Building the Case for Energy Efficiency with Financial Decision-Makers

October 1, 2013
3:00-4:00 PM EDT

Overview and Agenda

- The Building Upgrade Value Calculator (USAA Real Estate Company)
- Finance is Our Friend (Kohl's)
- Funding Higher Education Energy Efficiency (University of California, Irvine)
- Additional Resources
- Question & Answer Session

Today's Presenters

Name		Organization
Brenna Walraven		USAA Real Estate Company
Tari Emerson		Kohl's
Wendell Brase		University of California, Irvine

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

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



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

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



■ 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

USAA Real Estate Company's Playbook: 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.

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



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)

Calculate

Clear

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



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If Financing,

Loan Period (in years)

Number of Loan Payments (per year)

Interest Rate

Energy Project Information

Energy Efficiency Measure	Cost	Annual Savings
Garage Lighting Retrofit	\$273,191	\$46,197
Sub Total	\$273,191	\$46,197

Additional Annual Savings for Labor and Supplies

ENERGY STAR Rating

Rebates (if any)

Calculate

Clear

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



Building Upgrade Value Calculator Financial Results

- Back
- Glossary
- Print

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: \$ 81,876
- Improve net operating income by: \$ 81,876
- Enhance asset value by: \$ 1,364,600

Generate Letter

Financial Summary

Net Investment Cost	\$ 168,178
Net Investment Cost per SF	\$ 0.39
Simple Payback Period (SPP)	2.05 years
Return On Investment (ROI)	49%
Net Present Value (NPV)	\$381,217
Internal Rate of Return (IRR)	48%
Potential Impact on Net Operating Income (NOI)	\$ 81,876
Potential Impact on Asset Value	\$ 1,364,600


Energy Project Summary

	Before Upgrade	After Upgrade
ENERGY STAR Rating	95	95
Annual Energy Cost	\$ 826,440	\$ 780,243
Annual Energy Cost per SF	\$ 1.92	\$ 1.82

Annual Energy Savings Summary

	Garage Lighting Retrofit	Labor and Supplies Savings	Net Operating Expense Reduction	Operating Expense Reduction per SF
Year 1	\$46,197	\$35,679	\$81,876	\$0.19
Year 2	\$46,197	\$35,679	\$81,876	\$0.19
Year 3	\$46,197	\$35,679	\$81,876	\$0.19
Year 4	\$46,197	\$35,679	\$81,876	\$0.19
Year 5	\$46,197	\$35,679	\$81,876	\$0.19
Year 6	\$46,197	\$35,679	\$81,876	\$0.19
Year 7	\$46,197	\$35,679	\$81,876	\$0.19
Year 8	\$46,197	\$35,679	\$81,876	\$0.19
Year 9	\$46,197	\$35,679	\$81,876	\$0.19
Year 10	\$46,197	\$35,679	\$81,876	\$0.19

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



USAA REAL ESTATE COMPANY

January 25, 2011

Re: Energy Efficiency Upgrade Recommendation & Analysis

Tracy,

Chicago FBI Property Management has performed a preliminary financial analysis of energy performance improvements for the FBI Chicago Regional Office 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:

- **Orange Lighting Retrofit:**

The estimated cost of the investment would be \$168,178 or \$0.39 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 \$46,197
- Annual labor and supplies savings of \$35,679
- Total annual savings of \$81,876 or annual operating expense savings of \$0.19 per square foot
- Simple payback period of 2.05 years
- Return on Investment of 49%
- Net Present Value of \$381,217
- Internal Rate of Return of 48%

If all of these savings were to flow to the bottom line, they would represent a potential increase in Net Operating Income of \$81,876. Using the income approach to value, this translates into the potential addition of \$1,364,600 to FBI Chicago Regional Office's asset value, at a capitalization rate of 7%.

We also estimate that the improvements would result in a small increase to the FBI Chicago Regional Office's national energy performance rating of a 95. 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.

I also want to make you aware that in order for us to receive the \$105,000 in grant funding, we must approve and sign the grant agreement that is located in section 3 of the proposal booklet. There are time restrictions for grant acceptance and completion of the project.

Finally, I have included an attachment on potential federal tax credits that may be captured by completing this project due to the energy savings, our status as an LLC, and that our building is fully occupied by a federal tenant. If we were to move forward with the work, accounting could follow up with any and all tax deductions that may be achievable. Unofficially, I have been told that this amount could equal up to \$80,000 dollars.


Therefore, we recommend and request approval for these energy efficiency measures to improve FBI Chicago Regional Office's overall performance. Please contact me if you have any further questions.

Thank You,

Rick Pospisil

NorthCenter U.S. Region
2711 W. Roosevelt Road Chicago, IL 60608
312.228.6870 312.228.6873 Fax

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



ENERGY STAR

Building Upgrade Value Calculator

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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

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



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

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

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator

September 17, 2013

Trey Guajardo
Asset Manager
9830 Colomade 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 Barros to discuss this analysis and these proposed improvements. We look forward to speaking with you.

Sincerely,

Senior Property Manager

USAA Real Estate Company's Playbook: Building Upgrade Value Calculator



■ 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

Tari Emerson, P.E.
Director of Capital Projects and Energy
Kohl's Department Stores

KOHL'S



Embedding Finance into Sustainability

- **Barrier**
 - Receiving sustained corporate funding for energy efficiency projects
- **Solution**
 - Strengthen the relationship between the Finance and Energy team
- **Outcome**
 - Created an emerging technology budget and Financial Analyst liaison

How Did They Do That?

■ Process

- Filled an open position on the Energy team with an embedded member of the Finance Department
- Analyst reported to Finance, but was physically seated with the Energy Team
- Analyst worked to enhance communication and understanding between the two departments
 - Communicated project benefits in financial terms
 - Wrote all Capital Expense Requests
 - Performed project analyses, budgeting and forecasting
 - Introduced us to a statistical analysis tool to identify, evaluate and select portfolio-wide efficiency projects

Measuring Success: Transparency and Sharing of Data

- Finance tracked energy consumption and costs to demonstrate results of energy reduction projects
- Provided Finance access to bill payment system to track utilities
- The data used to validate projects ROIs

Outcomes and Benefits

- Decreased approval time for energy efficiency projects
- Increased credibility
- Established an 'emerging technologies budget'
- Extended practice of embedding Finance team members within departments across the company

Wendell Brase

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

Key Factors Behind Most Successful Programs

- Factors Driving EE Investment
 - Senior management and board commitment
 - Carbon policy goals
 - Strategic plan and implementation plan
 - Dedicated capital source
 - Simple criteria for proposed projects
 - Incentives help!

Obtaining Senior Management Commitment

- To speak the CFO's language, consider the following strategies:
 - 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

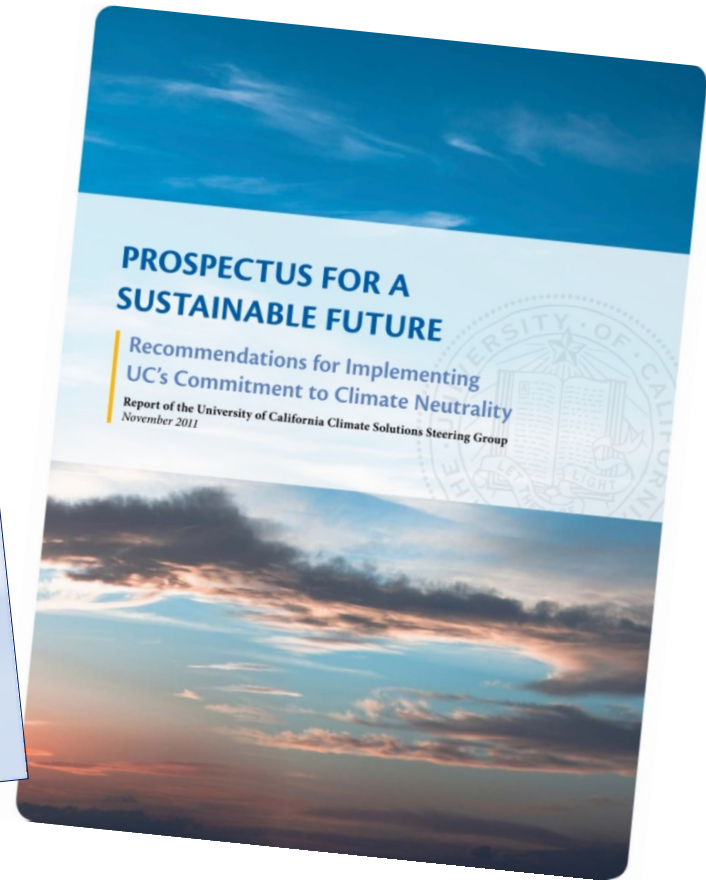
University of California Carbon Policy Goals

- 2014 - Reduce GHG emissions to 2000 levels
- 2020 – Reduce GHG emissions to 1990 levels
- As soon as feasible – carbon neutral

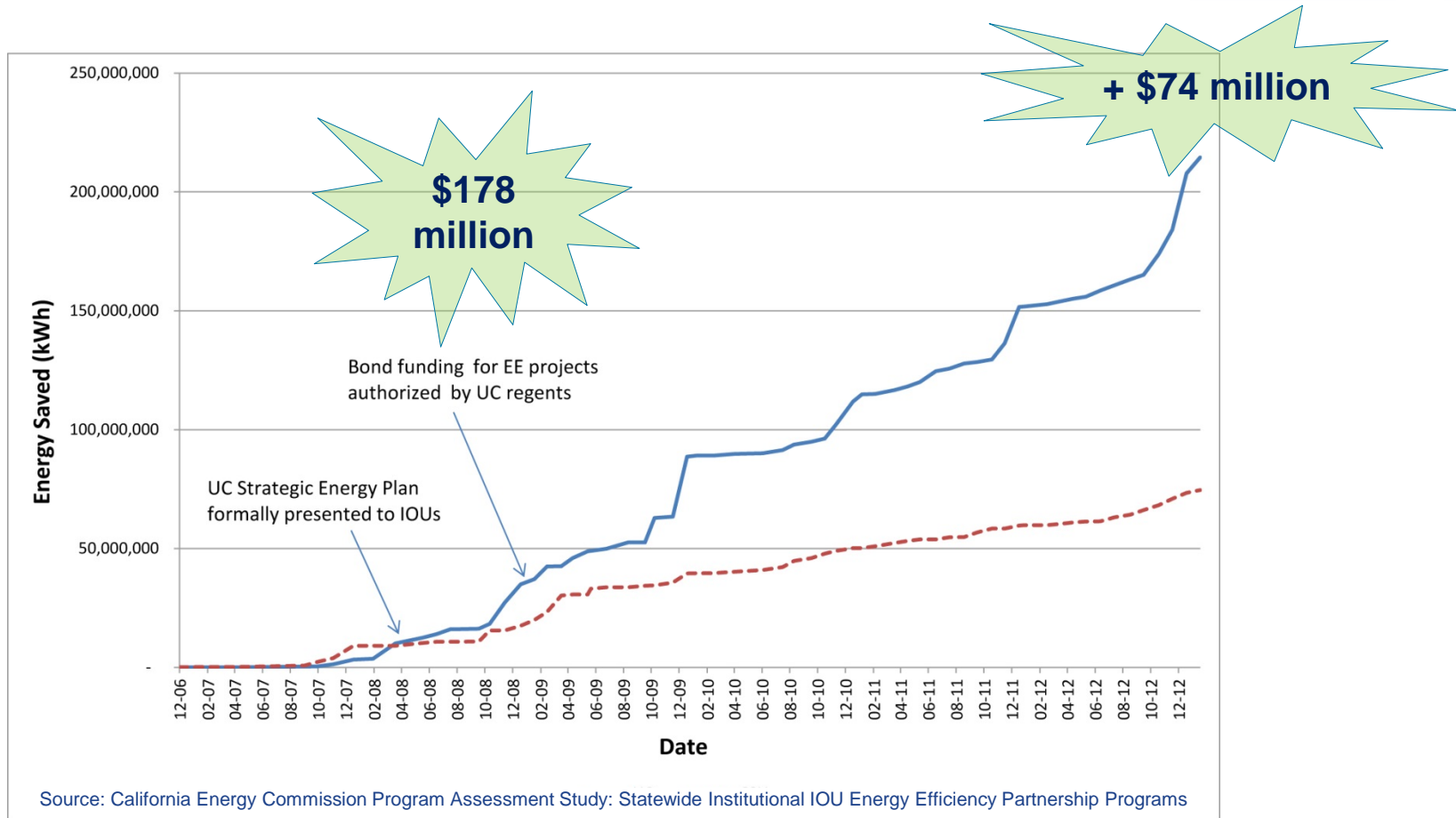


Biological Sciences 3 was 30% more efficient than California energy code when completed in 2008. After a Smart Labs retrofit in 2011, the building realized a 53% reduction in building systems energy use (HVAC and lighting).

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
- Deep energy efficiency more important than fast payback



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).

Additional Resources

BBC Implementation Models

- USAA Real Estate Company
 - [Implementation Model](#)
 - [Building Upgrade Value Calculator](#)
- Kohl's
 - [Energy Finance Strategy](#)
- University of California, Irvine
 - [Strategic Plan](#)
 - [Implementation Plan](#)
 - [Program Assessment](#)
 - [List of “Home Run” Projects](#)

Question & Answer Session

Join Us for the Next Better Buildings Webinar

- Fight Amongst Yourselves: Intra-organization Energy Efficiency Competitions
 - Tuesday, November 5, 2013, 3:00-4:00 PM EST
 - Eloisa Portillo-Morales (City of El Paso)
 - Susan Rochford & Paul Cannata (Legrand)
 - Mike Zatz (U.S. EPA)

<https://www4.gotomeeting.com/register/378128055>

Additional Questions? Feel Free to Contact Us

betterbuildingswebinars@ee.doe.gov

Today's Presenters	Brenna Walraven USAA Real Estate Company	Tari Emerson Kohl's
	Wendell Brase University of California, Irvine	
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