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

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brenna Walraven</td>
<td>USAA Real Estate Company</td>
</tr>
<tr>
<td>Tari Emerson</td>
<td>Kohl’s</td>
</tr>
<tr>
<td>Wendell Brase</td>
<td>University of California, Irvine</td>
</tr>
</tbody>
</table>
Brenna Walraven
Managing Director, Head of Property Operations
USAA Real Estate Company
USAA Real Estate Company’s Playbook: Building Upgrade Value Calculator

- **Organization Type**
  - Commercial Real Estate

- **Barrier**
  - Difficulty garnering approval for investments in building energy efficiency due to 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.
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

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

### Energy Project Information
#### Energy Efficiency Measure
- Cost
- Annual Savings

### If Financing
- Loan Period (in years)
- Number of Loan Payments (per year)
- Interest Rate

### Additional Annual Savings
- for Labor and Supplies
- ENERGY STAR Rating
- Rebate(s) (if any)

[Image of the calculator interface]
USAA Real Estate Company’s Playbook: Building Upgrade Value Calculator

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**: FBI Chicago Regional Headquarters
- **Square Footage**: 423,728
- **Annual Utility Bill**: $620,440

### Financial Information
- **Analysis Term (years)**: 10
- **Discount Rate**: 8%
- **Capitalization Rate**: 8%
- **If Financing, Loan Period (in years)**: 0
- **Number of Loan Payments (per year)**: 12
- **Interest Rate**: 8%

### Energy Project Information

<table>
<thead>
<tr>
<th>Energy Efficiency Measure</th>
<th>Cost</th>
<th>Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garage Lighting Retrofit</td>
<td>$273.101</td>
<td>$46.107</td>
</tr>
<tr>
<td>Total</td>
<td>$273.101</td>
<td>$46.107</td>
</tr>
</tbody>
</table>

**Additional Annual Savings for Labor and Supplies**: $35,670
**ENERGY STAR Rating**: 96
**Rebates (if any)**: $105,013

[Calculate] [Clear]
Building Upgrade Value Calculator

Financial Results

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

Financial Summary

- Net Investment Cost: $168,178
- Net Investment Cost per SF: $326.443
- Simple Payback Period (SPP): 2.05 years
- Return On Investment (ROI): 49%
- Net Present Value (NPV): $381,217
- Internal Rate of Return (IRR): 49%
- Potential Impact on Net Operating Income (NOI): $81,876
- Potential Impact on Asset Value: $1,364,600

Annual Energy Savings Summary

<table>
<thead>
<tr>
<th>Year</th>
<th>Labor and Supplies Savings</th>
<th>Net Operating Expense Reduction</th>
<th>Operating Expense Reduction per SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
</tr>
<tr>
<td>Year 2</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
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<tr>
<td>Year 3</td>
<td>$48,197</td>
<td>$35,679</td>
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<tr>
<td>Year 4</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
</tr>
<tr>
<td>Year 5</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
</tr>
<tr>
<td>Year 6</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
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<tr>
<td>Year 7</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
</tr>
<tr>
<td>Year 8</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
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<tr>
<td>Year 9</td>
<td>$48,197</td>
<td>$35,679</td>
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<tr>
<td>Year 10</td>
<td>$48,197</td>
<td>$35,679</td>
<td>$0.19</td>
</tr>
</tbody>
</table>

Before Upgrade

- ENERGY STAR Rating: 90
- Annual Energy Cost: $826,443
- Annual Energy Cost per SF: 3.12

After Upgrade

- ENERGY STAR Rating: 90
- Annual Energy Cost: $780,243
- Annual Energy Cost per SF: 1.82
January 25, 2011

Re: Energy Efficiency Upgrade Recommendation & Analysis

To:

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 the property:

- Garage Lighting Retrofit

The estimated cost of the investment would be $108,176 or $0.39 per square foot. Based upon our analysis, 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 $35,470
- Total annual savings of $111,787 or annual operating expense savings of $5.09 per square foot
- Simple payback period of 2.26 years
- Return on investment of 49%
- Net Present Value of $101,207
- Internal Rate of Return of 44%

If all of these savings were to flow to the bottom line, they would represent a potential increase in NRE Operating Income of $61,500. Using the income approach to value, this translates into the potential addition of $1,364,900 to FBI Chicago Regional Office's asset value, an appreciation rate of 7%.

While the estimated savings would result in a small increase to the FBI Chicago Regional Office's national energy performance rating of 53. 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 years-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 $100,000 in grant funding, we must approve and sign the grant agreement that is outlined in section 3 of the proposal booklet. There are time restrictions for grant acceptance and completion of the project.

Finally, there has been 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 buildings are fully occupied by federal tenants. If we were to move forward with this work, accounting could follow up with any and all tax deductions that may be achievable.

Unfortunately, I have been told that this amount could equal up to $50,000 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 Pogany
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

<table>
<thead>
<tr>
<th>Property Name</th>
<th>30,000 sq ft</th>
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<tbody>
<tr>
<td>Square Footage</td>
<td>30,000</td>
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<tr>
<td>Annual Utility Bill</td>
<td>$188,741</td>
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### Financial Information

<table>
<thead>
<tr>
<th>Analysis Term (years)</th>
<th>10</th>
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<tbody>
<tr>
<td>Discount Rate</td>
<td>8%</td>
</tr>
<tr>
<td>Capitalization Rate</td>
<td>5%</td>
</tr>
</tbody>
</table>

If Financing,

<table>
<thead>
<tr>
<th>Loan Period (in years)</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Loan Payments (per year)</td>
<td>12</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>8%</td>
</tr>
</tbody>
</table>

### Energy Project Information

<table>
<thead>
<tr>
<th>Energy Efficiency Measure</th>
<th>Cost</th>
<th>Annual Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupancy Sensors</td>
<td>$4,978</td>
<td></td>
</tr>
<tr>
<td>Light timers in elevators</td>
<td>$7,449</td>
<td></td>
</tr>
<tr>
<td>Building wide lighting retrofit</td>
<td>$146,599</td>
<td>$50,459</td>
</tr>
<tr>
<td>Sub Total</td>
<td>$157,967</td>
<td>$59,459</td>
</tr>
</tbody>
</table>

Additional Annual Savings for Labor and Supplies

**ENERGY STAR Rating**: 50

Rebates (if any)
USAA Real Estate Company’s Playbook: Building Upgrade Value Calculator

**Building Upgrade Value Calculator**

**Financial Results**

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**

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Investment Cost</td>
<td>$157,957</td>
</tr>
<tr>
<td>Net Investment Cost per SF</td>
<td>$0.89</td>
</tr>
<tr>
<td>Simple Payback Period (SPP)</td>
<td>3.13 years</td>
</tr>
<tr>
<td>Return On Investment (ROI)</td>
<td>30%</td>
</tr>
<tr>
<td>Net Present Value (NPV)</td>
<td>$103,537</td>
</tr>
<tr>
<td>Internal Rate of Return (IRR)</td>
<td>36%</td>
</tr>
<tr>
<td>Potential Impact on Net Operating Income (NOI)</td>
<td>$60,450</td>
</tr>
<tr>
<td>Potential Impact on Asset Value</td>
<td>$840,833</td>
</tr>
</tbody>
</table>

**Energy Project Summary**

<table>
<thead>
<tr>
<th>Description</th>
<th>Before Upgrade</th>
<th>After Upgrade</th>
<th>Estimated Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENERGY STAR Rating</td>
<td>60</td>
<td>73</td>
<td>13 points</td>
</tr>
<tr>
<td>Annual Energy Cost</td>
<td>$265,731</td>
<td>$238,261</td>
<td>$60,460</td>
</tr>
<tr>
<td>Annual Energy Cost per SF</td>
<td>$1.63</td>
<td>$1.34</td>
<td>$0.28</td>
</tr>
</tbody>
</table>
September 17, 2013
Trey Cuaspeado
Asset Manager
9830 Colonnade Blvd., Suite 600
San Antonio, Texas 78230

Re: Energy Efficiency Upgrade Recommendation & Analysis

Dear Trey:

David Barrow 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 $50,459
- Total annual savings of $50,459 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 $50,459. Using the income approach to value, this translates into the potential addition of $407,832 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 69 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
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
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).
University of California

Proposed 2009-2011 Statewide Energy Partnership

Katherine N. Lapp – Executive Vice President
Michael J. Bocchicchio – Assistant Vice President
September 17, 2008

PROSPECTUS FOR A SUSTAINABLE FUTURE

Recommendations for Implementing UC’s Commitment to Climate Neutrality
Report of the University of California Climate Solutions Steering Group
November 2011
Dedicated Capital Source

$178 million

+ $74 million

Source: California Energy Commission Program Assessment Study: Statewide Institutional IOU Energy Efficiency Partnership Programs

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
**Today’s Presenters**

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</tr>
</tbody>
</table>

**DOE Program Leads**

<table>
<thead>
<tr>
<th>Holly Carr</th>
<th>Kristen Taddonio</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOE, Better Buildings Challenge</td>
<td>DOE, Better Buildings Alliance</td>
</tr>
<tr>
<td><a href="mailto:Holly.Carr@EE.Doe.Gov">Holly.Carr@EE.Doe.Gov</a></td>
<td><a href="mailto:Kristen.Taddonio@EE.Doe.Gov">Kristen.Taddonio@EE.Doe.Gov</a></td>
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**Program Support**

<table>
<thead>
<tr>
<th>Andrew Schulte</th>
<th>Kate George</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICF International</td>
<td>ICF International</td>
</tr>
<tr>
<td><a href="mailto:andrew.schulte@icfi.com">andrew.schulte@icfi.com</a></td>
<td><a href="mailto:katherine.george@icfi.com">katherine.george@icfi.com</a></td>
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