

ENERGY STAR[®]
Performance Contracting
Best Practices

Prepared for:

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ENERGY STAR Buildings

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Introduction

The U.S. Environmental Protection Agency's (U.S. EPA) ENERGY STAR program is designed to help energy service companies as well as building owners and managers develop and implement comprehensive energy efficiency programs in their buildings. One key element in many comprehensive energy efficiency projects is an Energy Performance Contracting (EPC) project, in which a building owner hires an Energy Service Company (ESCO) to design, construct, and arrange financing for a comprehensive project that pays for itself from energy savings. EPC projects can incorporate a full range of technologies, including lighting, heating, air conditioning, building controls, water conservation, combined heat and power, demand response, and renewable energy and sustainable building operations.

ENERGY STAR can help an ESCO prioritize project development targets and overcome common barriers to EPC project development and implementation. Effective EPC project development requires efficient targeting of ESCO sales and engineering resources. Leveraging ENERGY STAR tools can facilitate and expedite the EPC project development process.

This Primer is designed to establish best practices for ESCOs that are implementing EPC projects by integrating several publicly available Web-based ENERGY STAR tools that the U.S. EPA has designed and provides free-of-charge on the ENERGY STAR Web site, www.energystar.gov. U.S. EPA believes that the use of these tools will help make the results of EPC projects more actionable and understandable to building owners, tenants, policy makers and the general public.

The Primer has four sections:

- Why ESCOs use ENERGY STAR tools.
- How ESCOs use ENERGY STAR tools in the context of a typical EPC project.
- How to integrate ENERGY STAR tools into an EPC project.
- Appendix which describes the ENERGY STAR tools in more detail, and provides the URLs where the tools can be found.

1. Why ESCOs Use ENERGY STAR Tools

ESCOs use ENERGY STAR tools in order to overcome common market barriers in developing and implementing projects.

Common ESCO Market Barriers

ESCOs experience a series of common problems in trying to develop and implement EPC projects. These problems include:

Long Sales Cycle

ESCOs often find it hard to establish credibility with a potential customer, especially when the ESCO is telling the customer that substantial savings are available in the customer facility. The customer often feels that he/she has been

doing a good job with the facility, and so doesn't believe the potential savings estimates. Potential customers often make the ESCO do a time-consuming and expensive feasibility study to confirm the savings estimates and establish credibility.

Financial Indecision

A second major problem in many projects occurs after the ESCO and the customer have established the technical elements of a project and are seeking approval from the customer's financial managers. These managers often are unfamiliar with energy-savings technologies and are puzzled by the relatively complex structure of an EPC (as compared to a normal construction contract), which involves unfamiliar financial terms and potential risks. The instinctual response of many financial managers is to slow down the project, and to underestimate the cost of project delays. The managers often think that waiting for a year or more for either a lower interest rate on project borrowing or an allocation from the capital budget is sensible.

No Internal Recognition

A third major problem is that risk/reward calculation for facility managers thinking about an EPC project seems heavily weighted toward risk. Successful EPC projects often involve technologies, such as boilers, air handlers and new lighting fixture components that are largely invisible. If the EPC project works well, no one ever sees it. But if there are problems, the lights go out and/or the building is intolerably hot or cold. On the reward side, there is little or no financial reward or recognition for a facility manager or even an organization CFO or CEO who takes the risk of implementing an EPC.

“One-Off” Projects vs. Portfolio Wide Relationship

The fourth typical ESCO problem occurs after a customer implements a successful project, and the ESCO tries to convert the successful project into a larger relationship which will allow the ESCO to implement other projects for the same customer. ESCOs find that customers want to make the ESCO compete for every project; the customer often has no apparent loyalty to the energy-efficient equipment brands the ESCO may have installed, or even to the quality of the project management service the ESCO may have provided.

ENERGY STAR Helps Remove Market Barriers

The U.S. EPA ENERGY STAR program offers an independent third party perspective that can strengthen the EPC proposal. ENERGY STAR has analyzed these major barriers to the EPC project development and implementation process, and has developed a set of tools that can help ESCOs overcome the problems. EPA developed the tools because it understands that EPC projects can make a large contribution to reducing energy use in commercial buildings, which is a major goal of the EPA. Buildings consume about \$200 billion of electricity and natural gas each year. Industrial and commercial buildings are responsible for about 50% of total U.S. greenhouse gas emissions. EPA studies have confirmed what ESCOs know from field experience – that at least 30% of the energy used in commercial buildings is wasted. If buildings reduced their energy consumption by just 10%, they would save \$20 billion each year on energy

costs and reduce greenhouse gas emissions by as much as removing 30 million cars from the road. The ENERGY STAR tools can help ESCOs:

- **Assess Building and Portfolio Energy Performance:** ESCOs can use EPA's Energy Performance Rating System to help them estimate customer building and portfolio energy efficiency relative to similar buildings nationwide, and communicate energy performance to decision makers using a simple rating system.
- **Set Energy Performance Goals:** ESCOs can use ENERGY STAR tools to help convince customers that EPC project proposals set meaningful, achievable goals for increasing energy efficiency and reducing environmental emissions. The ESCO will also be able to express these goals in simple terms using the rating system.
- **Calculate Financial Value.** ESCOs can use a suite of ENERGY STAR financial tools to quantify and communicate the value of energy efficiency, compute potential financial returns, and emphasize the urgency of implementing the project.
- **Evaluate Progress.** ESCOs can use ENERGY STAR tools to track and document energy reductions and financial savings against goals, and to communicate EPC project results to project stakeholders in a form that is more accessible than a detailed project M&V report.
- **Get Recognition for Your Achievements.** ESCOs can use ENERGY STAR to document and communicate project success. ENERGY STAR partners can gain recognition through leadership awards, publicized case studies, and more. Buildings that rate in the top 25 percent of facilities in the nation for energy performance can qualify for the prestigious ENERGY STAR label.

2. Using ENERGY STAR Tools in an EPC Project

This section of the Primer describes how the ENERGY STAR tools described above are typically used in an EPC project.

Portfolio Manager

Portfolio Manager is typically used to obtain an ENERGY STAR energy performance rating in the early stages of project development and in the long-term Monitoring and Verification (M&V) of project results, as follows:

Confirming Existing Conditions

During the procurement/RFP phase, when both the facility owner and the ESCOs are trying to determine if there is a viable EPC project at the facility, the ESCOs will deliver a Portfolio Manager energy performance rating score as part of their Preliminary Technical Proposals. This rating helps the ESCOs and the building owner or manager understand the magnitude of the energy savings opportunity at the facility, and may help to overcome owner resistance to the ESCOs' estimates of potential energy savings. Many building owners are surprised when an ESCO estimates that a facility can realize 25 or 30 percent energy savings. A low Portfolio Manager rating score, which is an independent confirmation of this savings potential, can help convince the owner that the savings potential is real.

Prioritizing Retrofit Opportunities

If an ESCO delivers a Portfolio Manager rating on a number of buildings, the facility owner and the ESCO can readily prioritize the buildings in terms of their energy savings potential. A building with a relatively high score can be moved down the priority list while buildings with low scores can receive immediate attention.

Supporting the Sale

ESCOs incorporate the rating into their EPC project sales proposals by attaching a printout of the Statement of Energy Performance (SEP), a formal report that documents the building's current energy performance, which reinforces the ESCO's argument that the building needs a substantial EPC project.

Tracking Building and Portfolio Improvement

Portfolio Manager is also used to track the long-term performance of buildings where EPC projects have been implemented. Portfolio Manager does not substitute for a more comprehensive ESCO Monitoring and Verification (M&V) plan, but rather complements it with an easy-to-understand rating of a building or portfolio's progress. For example, Portfolio Manager can be used by an agency that wants to demonstrate its progress toward meeting a legislative or regulatory energy savings mandate to public officials and the general public. Detailed M&V reports are generally not very useful for this purpose, because they contain a great deal of technical detail and are usually too complex for the intended audience. Portfolio Manager ratings, however, provide exactly the kind of score that lends itself to reporting progress to these audiences.

Using Portfolio Manager to Set Energy Performance Targets

The "Set Energy Performance Target" function in Portfolio Manager is used in two ways to help ESCOs and facility owners to understand the potential of EPC projects.

Estimating Improvement in the Energy Performance Rating

The first use of this estimator is to project the potential improvement in the Energy Performance Rating score if a specific EPC project is implemented. During the Investment Grade Audit (IGA), an ESCO proposes a project and estimates the percentage of energy savings the project will produce. That percentage is input into the estimator, and the estimator produces a projected post-project energy performance rating score.

Setting Rating Improvement Targets

The second use of this estimator tool is to input the target energy performance rating for a facility, and then let the tool determine what percentage of energy savings is required to hit the target rating. The ESCO can then try to develop a cost-effective project to produce or exceed the target energy savings percentage. This use of the estimator is effective if applied to a portfolio of buildings because it allows the ESCO and the owner to prioritize the relative opportunities between buildings and develop the most cost-effective strategy for approaching the whole portfolio, thus engaging the building owner or manager in a strategy to address the entire portfolio rather than individual projects.

Cash Flow Opportunity Calculator - Public Sector Focus

The Cash Flow Opportunity Calculator (CFO Calculator) can be used to help the ESCO and facility staffs persuade public sector decision-makers to approve a project in a timely fashion and create a sense of financial urgency. ENERGY STAR developed the CFO Calculator to demonstrate how operating budget savings resulting from an energy efficiency project can be redirected to pay for the needed improvements without having to compete for scarce capital dollars. EPC projects are often delayed for months, or sometimes years, because financial decision-makers do not properly calculate and reflect the costs associated with delaying or not implementing technically sound energy efficiency projects.

Confirming Financial Viability

The first use of the CFO Calculator is to confirm that the proposed EPC project can, in fact, pay for itself from energy savings. The CFO Calculator requires a few simple inputs:

- The projected project energy savings
- The percentage of the energy savings to use to pay for the financing
- The proposed project financing interest rate
- The proposed financing term

With these four inputs, the CFO Calculator computes the amount of a project that can be paid entirely from energy savings. The financial manager can then compare this project value to the price of the project proposed by the ESCO and get a quick confirmation that the project will pay for itself from savings. By changing the inputs, the project amount paid from savings can be increased (or decreased), which provides a useful financial sensitivity analysis tool.

Estimating the Cost of Project Delay

The second use of the CFO Calculator is to help the financial manager calculate the cost of delaying a project incurred by waiting for future capital budget funds or more favorable financing terms. Many public agency finance managers are averse to borrowing to pay for energy efficiency projects because they believe that paying interest significantly decreases the value of the project to the facility owner. The CFO Calculator is a financial tool to test that belief.

Waiting for Cash

Many financial managers believe that it is a “no-brainer” to postpone the implementation of a performance contract to wait for a future cash appropriation: *How can it possibly make more sense to borrow the project cost and pay interest for the term of the contract rather than wait for “free” money?* The CFO Calculator demonstrates, by comparing the net present value of the cash flows, that for most projects it makes sense to finance the project and do it now, rather than wait for funds to become available in a future budget. In fact, this tool often shows that the energy inefficiencies incurred by waiting for just one year is greater than the entire financing cost over the term of the financing. The results are often counter-intuitive and the calculation is especially valuable for organizations that have a build-out program covering a number of years.

Waiting for a Lower Interest Rate

Financial managers frequently believe that they will benefit by delaying the project implementation to wait for a lower interest rate (e.g., a bond or revolving loan fund) rather than accepting a currently offered third-party financing proposal. The CFO Calculator demonstrates that the differential in interest rates offered by bond issues or low interest loan pools may not economically justify waiting more than a few weeks to implement a project.

Building Upgrade Value Calculator - Commercial Real Estate

The Building Upgrade Value Calculator is a product of the partnership between ENERGY STAR, BOMA International, and the BOMA Foundation. This calculator was developed as part of BOMA's Energy Efficiency Program (BEEP), a series of courses designed to help commercial real estate owners and managers improve their buildings' energy performance. The calculator tool was developed to help commercial real estate professionals assess the financial value of investments in improving a property's energy performance and is part of the BEEP course 5, "Valuing Energy Enhancement Projects & Financial Returns."

What Does the Calculator Do?

The Building Upgrade Value Calculator estimates the financial impact of proposed investments in energy efficiency in commercial real estate properties. The calculations are based on data input by the user, representing scenarios and conditions present at their properties. Required inputs are limited to general characteristics of the building, plus information on the proposed investments in energy efficiency upgrades.

The calculator's analysis includes the following information:

- Net investment
- Reduction in operating expense
- Energy savings
- Return on investment (ROI)
- Internal rate of return (IRR)
- Net present value (NPV)
- Net operating income (NOI)
- Impact on asset value

In addition to the above outputs, the calculator also estimates the impact the proposed changes will have on a property's ENERGY STAR rating.

The tool provides two ways to use its calculations: users can save and print a summary of their results, or generate a letter that highlights the financial value for use as part of a capital investment proposal.

Financial Value Calculator - Corporate Real Estate

The Financial Value Calculator was created to determine the financial impact of investments in energy performance projects in corporate real estate. It describes the impact of energy investments on profit margins, earnings per share, and ultimately, shareholder value. The financial value calculator presents energy investment

opportunities using key financial metrics to convey the financial value of improved energy performance projects to corporate decision makers.

What Does the Calculator Do?

The Financial Value Calculator (FVC) uses the prevailing price/earnings ratio to estimate the market value of increased earnings that can result from increased energy efficiency. The tool uses corporate data to calculate a company's potential financial returns. Both publicly and privately held companies can use the FVC to assess the potential value of improved energy performance. Required inputs are limited to general characteristics of the building, plus information on the proposed investments in energy efficiency upgrades. For public companies, additional input information (number of outstanding shares, earnings per share and P/E ratio) will allow a user to calculate increased value per share.

The FVC's analysis yields the following information:

- Income Statement Impacts
- Increase in Earnings per Share (EPS)
- Impact on Shareholder Value
- Internal Rate of Return (IRR)
- Net Present Value (NPV)

The FVC is currently available for several types of buildings, including corporate real estate, healthcare facilities (for-profit and not-for-profit), hotel/motel, supermarket/grocery, and retail.

3. Integrating ENERGY STAR Tools into an EPC Project

This section of the Primer describes how an ESCO can develop and implement a project that makes full use of the ENERGY STAR tools described above – Portfolio Manager and the Financial tools – by integrating the tools into each critical step of a project:

- The Request for Qualifications (RFQ) or Request for Proposals (RFP);
- The Investment Grade Audit (IGA) contract; and
- The Energy Services Agreement (ESA).

The next section provides draft generic contract language that incorporates the use of ENERGY STAR tools when responding to typical procurement EPC projects, and recommends where this language can be inserted into typical contract documents. The recommendations are based on a review of a number of individual procurement and contracting documents, as well as a generic document set that has been developed by the Energy Services Coalition (ESC), a national organization whose members are comprised of ESCO personnel and state energy officials.

Draft Generic ENERGY STAR Language for Responding to EPC RFPs, RFQs, and Contract Documents

NAESCO has drafted sample performance contract insert language, as outlined below. For each insert we have provided a functional specification followed by a draft text in italics.

- a) In RESPONSE TO an RFP that an ESCO making a proposal to an agency or other entity shall provide, as part of its preliminary technical proposal, a Portfolio Manager rating and an energy performance rating target or the estimated change in the rating based on the proposed energy improvement project.

“For each building covered in the Preliminary Technical Proposal, “ESCO” will provide a pre-retrofit Energy Performance Rating using EPA ENERGY STAR’s Portfolio Manager, the weather normalized energy intensity in kBtu/SF, and an estimated post-retrofit Energy Performance Rating target. If the building type is not eligible for rating in Portfolio Manager, then the normalized source EUI will suffice.”

OR in the case of an RFQ-based procurement, the following may be used:

Using the EPA’s ENERGY STAR tools and resources for each eligible facility, “ESCO” will provide an estimated pre- and post-retrofit Energy Performance Rating using Portfolio Manger and submit a completed Financial Value analysis using ENERGY STAR Financial tools as part of the Investment Grade Technical Energy Audit Report. “ESCO” will also submit an updated ENERGY STAR rating for each eligible facility upon completion of each guaranteed year as part of the Guaranteed Energy Savings Agreement. Information regarding ENERGY STAR tools and resources, and a list of eligible facility types can be found at:

http://energystar.gov/index.cfm?c=tools_resources.bus_energy_management_tools_resources

- b) Provide Portfolio Manager energy performance ratings and target score estimates as elements of the ESCO's qualifications.

"The submission of ENERGY STAR Portfolio Manager energy performance ratings, or the normalized source EUI plus an energy improvement score target, is an important qualification of our response."

- c) Include in the Investment Grade Audit contract that the "ESCO" shall provide a revised Portfolio Manager rating and energy performance target score estimate as part of its Investment Grade Audit.

"For each eligible building, "ESCO" shall provide a pre-retrofit Energy Performance Rating using EPA ENERGY STAR's Portfolio Manager, the weather normalized energy intensity in kBtu/SF, and an estimated post-retrofit Energy Performance Rating. If the building type is not eligible for rating in Portfolio Manager, then the normalized source EUI will suffice."

- d) Include in a Public Sector Investment Grade audit contract that "ESCO" shall provide a completed Cash Flow Opportunity Calculator (CFO Calculator) for the project, with variables inserted that represent the most likely options available to the customer. This will enable the "ESCO" and the customer to have an agreed-upon format for discussing project financing options and the potential costs of project delays. The CFO Calculator will be provided in both hard copy and electronic format, so that the agency can run its own analyses on financing options in the agreed format.

"ESCO will submit a completed Cash Flow Opportunity spreadsheet using the Cash Flow Opportunity Calculator (CFO Calculator) for the total project which shall include all facilities to be improved. A copy of the CFO Calculator Excel Workbook can be found at the following URL: http://www.energystar.gov/ia/business/cfo_calculator.xls

- e) Specify in the contract documents and appropriate contract schedules that the ESCO will provide another Portfolio Manager rating after the building has operated for a full year with the project retrofits in place, and for as many subsequent years as the customer chooses. ESCO will assist the customer to apply for an ENERGY STAR building label for applicable buildings.

"For each building included in the project, "ESCO" will provide an updated Portfolio Manager rating to be included in the Measurement and Verification report at the conclusion of each year of project operation (alternately, at the conclusion of each of the first xx years of project operation). Also, for applicable buildings, "ESCO" includes the cost to provide services and complete the annual application for a building ENERGY STAR label."

- f) Specify where the ENERGY STAR tools can be found on the U.S. EPA ENERGY STAR Web site.

"The ENERGY STAR tools, information regarding ENERGY STAR and Portfolio Manager, and a list of eligible facility types can be found at: http://energystar.gov/index.cfm?c=tools_resources.bus_energy_management_tools_resources

APPENDIX- Finding and Understanding ENERGY STAR Tools

This section of the Primer describes in detail the following ENERGY STAR tools that can be used in concert with most EPC projects:

1. Portfolio Manger
2. Portfolio Manager – “Set Energy Performance Target” Function
3. The Cash Flow Opportunity Calculator
4. Building Upgrade Value Calculator
5. Financial Value Calculator
6. ENERGY STAR Recognition

These tools are just a few of the full library of software tools and manuals that the ENERGY STAR program has designed and made available at:

http://www.energystar.gov/index.cfm?c=tools_resources.bus_energy_management_tools_resources

Free training is available through the ENERGY STAR program on the use of all ENERGY STAR tools. These trainings are available at:

http://www.energystar.gov/index.cfm?c=business.bus_internet_presentations

TOOL #1: Portfolio Manager

Portfolio Manager (PM) allows an ESCO to assess the energy and water consumption as well as the environmental emissions of a portfolio of customer buildings in a secure online environment. Portfolio Manager can help an ESCO to prioritize project development targets and overcome common barriers to EPC project development and implementation.

Effective EPC project development requires efficient targeting of ESCO sales and engineering resources. Portfolio Manager helps an ESCO organize a portfolio's energy and water data, and track key consumption, performance and cost information portfolio-wide. Using Portfolio Manager, an ESCO can benchmark facilities relative to other similar buildings and their past performance and see trends in [source energy](#) use, water use, and costs.

Rate Facility Energy Performance

For many facilities, energy performance can be rated on a scale of 1–100 relative to similar buildings nationwide. EPA's [energy performance rating system](#), based on [source energy](#), accounts for the impact of weather variations as well as key physical and operating characteristics of each building. Buildings rating 75 or greater may qualify for the ENERGY STAR label. ENERGY STAR building ratings of 69 or more qualify for LEED-EB points. See <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=221>.

Commercial buildings [eligible to receive a rating](#), representing over 70% percent of U.S. commercial floor space, are:

- Offices
- K-12 Schools

- Hospitals (acute care and children's)
- Hotels and Motels
- Medical Offices
- Supermarkets
- Residence Halls/Dormitories
- Warehouses (refrigerated and non-refrigerated)
- Retail
- Wastewater Treatment
- Courthouses
- Financial Centers

EPA is always working to develop rating criteria for additional segments of the commercial building market. In the meantime, owners of building types that are not eligible to receive a rating can obtain an Energy Use Intensity (EUI) from Portfolio Manager and compare the performance of their buildings to national averages of energy consumption in similar buildings by utilizing the “2003 Commercial Building Energy Consumption Survey (CBECS) National Average Source Energy Use and Comparisons” database, which is available on the ENERGY STAR Web site at:

http://www.energystar.gov/index.cfm?c=new_bldg_design.bus_target_finder

Verify and Track

Portfolio Manager can also verify and track building performance over time. An ESCO can generate a [Statement of Energy Performance \(SEP\)](#) for each building, documenting important energy information and building characteristics, which will enable the ESCO and/or the building owner to:

- Provide documentation of project savings in a form less technical and more accessible than a typical ESCO project Monitoring and Verification (M&V) report
- Communicate Energy Performance to tenants/owner/customers
- Apply for the ENERGY STAR label
- Satisfy LEED for Existing Buildings (LEED-EB) requirements
- Support mortgage, sale, and/or lease transactions
- Document performance in EPC projects
- Measure environmental emissions

Alternately, building managers can print a Facility Manager Report, which is a summary of the energy performance of a portfolio of buildings.

The Portfolio Manager tool is available at the following URL:

http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager

U.S. EPA conducts frequent Webcast training sessions on how to use Portfolio Manager. See the following URL for more information on EPA Webcast topics and schedules:

http://www.energystar.gov/index.cfm?c=business.bus_internet_presentations

TOOL #2: Portfolio Manager – Set Energy Performance Target

This tool, embedded as a function in Portfolio Manager, is used to set performance targets for an EPC project by enabling the ESCO to quickly determine the relationship between the percent of energy saved in a building and the ENERGY STAR energy performance rating score of a building. Once a building has been benchmarked in Portfolio Manager, and a current energy performance rating established, the Performance Target Estimator can:

- Estimate a resulting new energy performance rating by entering a specified percent reduction in energy use, or
- Given a target energy performance rating, estimate the percent energy reduction needed to move from the existing rating to the target energy performance rating.

To access the Performance Target Estimator, the ESCO enters the building data into Portfolio Manager, establishes a Baseline Period in the Facility Performance block, and then sets an Energy Performance Target.

TOOL #3: Cash Flow Opportunity Calculator

The Cash Flow Opportunity Calculator (CFO Calculator) is an MS Excel® workbook tool designed to primarily help public sector financial decision-makers address three critical questions when evaluating EPC projects:

- How much new energy efficiency equipment can be paid for from the anticipated project savings?
- Should this project be financed now or is it better to wait and use cash from a future budget?
- Is waiting for a lower interest rate for project financing losing money?

The CFO Calculator helps ESCOs make a convincing argument to customer financial officers to move ahead with an EPC project. The answers to the last two questions are often surprising and counter-intuitive to financial decision-makers, because the costs of delaying a project while waiting for future budget allocations or lower interest rates are much higher than many people anticipate. For example, in a typical project, a delay of more than 2-3 months decreases the project Net Present Value, even if the delay results in a interest rate that is 1% (or 100 basis points) lower, which is a substantial difference in today's competitive financing market.

The CFO Calculator can be downloaded from the following URL:

http://www.energystar.gov/ia/business/cfo_calculator.xls

Detailed directions for the use of the CFO Calculator are in the “Instructions” tab in the spreadsheet. Many users find it helpful to print the instructions before using the CFO Calculator, so they don't have to flip back and forth between tabs as they enter data.

TOOL #4: Building Upgrade Value Calculator (BUVC)

ESCOs can use the Building Upgrade Value Calculator to help their customers understand the increase in the value of a commercial real estate building that will result from the implementation of an EPC project. Since the tool was developed with input from BOMA International, it helps the ESCO to present the financial aspects of the EPC project in terms that are familiar to office building owners and operators, but may not be familiar to ESCOs.

The BUVC emphasizes three values that are critical to office building owners: reduction in operating expenses, increase in net operating income, and increases in the asset value of the building. The calculator demonstrates that an EPC project will not only improve the building P&L, but also its potential selling price, which is a multiple of the building's net operating income (NOI). The potential increase in selling price is not a factor in most ESCO projects, because they are implemented in public or institutional facilities whose owners do not intend to sell the buildings.

The tool is easy to use and requires only summary data from an EPC project as inputs. It generates a Project Summary (which includes the estimated change in the building Energy Performance Rating), energy savings by measure, and a financing summary and a detailed monthly financing schedule.

The BUVC is an MS Excel workbook that can be downloaded from the following URL. The "Glossary" button on each spreadsheet in the workbook provides detailed descriptions of the various line items in the workbook. Users should read and print the Glossary before using the BUVC. Please also note that the BUVC does not run in the Excel version found in MS Office for Mac 2008, which does not support the Visual Basic macros in the BUVC.

http://www.energystar.gov/index.cfm?c=comm_real_estate.building_upgrade_value_calculator

TOOL #5: Financial Value Calculator (FVC)

ESCOs can use the Financial Value Calculator to help their corporate customers in several industries to better understand the increase in profitability and value of their companies as the result of an EPC project in their facilities. Industries include:

- Corporate Real Estate
- Healthcare (for profit and not-for-profit)
- Hotel/Motel
- Supermarket/Grocery
- Retail

As with the BUVC described above, the FVC was designed with input from financial experts in the various industries to present financial data in terms that are familiar to the customers, but may not be familiar to the ESCOs. The major difference is that while the BUVC presents the potential increase in the asset value of a particular building, the FVC presents the potential increase in shareholder value of the organization. The FVC demonstrates that the value created by a major EPC project, or portfolio-wide set of projects, is comparable to, or greater than, the value that is created by other competing initiatives the organization might otherwise undertake.

The input data required for the FVC is about a dozen items that summarize the organization and the potential EPC project(s). The output data includes potential Income Statement Impacts over the life of the project(s) and key indicators of increases in the value of the organization, including increased earnings per share, internal rate of return, and net present value. As in the case of commercial real estate, these indicators are often not appropriate for the public sector and institutional customers the ESCO is accustomed to dealing with.

The FVC is a MS Excel workbook that can be downloaded from the following URL. Be sure to read and print the “Instructions” sheet in the workbook before beginning to use the FVC. Please also note that the FVC does not run in the Excel version found in MS Office for Mac 2008, which does not support the Visual Basic macros in the FVC.
http://www.energystar.gov/index.cfm?c=tools_resources.bus_energy_management_tools_resources

TOOL #6: ENERGY STAR Recognition

ESCOs can offer to assist their customers (building owners and managers) to achieve ENERGY STAR recognition as an additional incentive to implementing EPC projects. ESCOs also benefit from recognition by using the ENERGY STAR logo on their Web sites and project write-ups, and by creating a building profile in the listing on the ENERGY STAR Web site “ENERGY STAR Labeled Buildings and Plants”.

ENERGY STAR Label

America’s desire for environmentally friendly buildings is growing, and superior energy efficiency — identified by the ENERGY STAR label — is a critical element of green buildings. Buildings that earn the ENERGY STAR label are the top performers for energy efficiency nationwide and use about 35 percent less energy than average buildings. More than 4,000 buildings totaling almost 740 million square feet in all 50 states have earned the prestigious ENERGY STAR label.

What buildings are eligible to earn the ENERGY STAR label?

Buildings achieving an energy performance rating in the top 25 percent of energy-efficient buildings in the nation may qualify for the ENERGY STAR label. Many types of commercial and industrial buildings can be rated based on a comparison of energy use with other, similar types of buildings. Currently, buildings that can earn the ENERGY STAR label include offices, bank branches and financial centers, courthouses, hospitals, hotels and motels, K-12 schools, medical offices, supermarkets, retail stores, dormitories, and warehouses. [Industrial buildings that can earn the ENERGY STAR](#) are auto manufacturing plants, cement plants, petroleum refineries, and wet corn milling plants. Architecture firms can also display the [Designed to Earn the ENERGY STAR](#) graphic to distinguish their projects as among the nation’s best in intended energy performance.

How will earning the ENERGY STAR distinguish an organization?

Earning the ENERGY STAR label is evidence of an organization's social responsibility to the community and its commitment to reduce its impact on the environment. EPA helps highlight achievements within an organization and to the public. Each year in January or early February, EPA releases information about buildings that have earned the prestigious ENERGY STAR label to the press and includes these building programs in its own media activities. Within the ENERGY STAR buildings program, it is also possible to earn public recognition as an ENERGY STAR Partner or Leader, or to earn a nationally recognized [Partner of the Year Award](#).

Commercial buildings account for almost 18 percent of our nation's greenhouse gas emissions. Improved energy efficiency reduces costs for our nation's utility systems, helps businesses, governments, and other organizations save money, and helps protect our environment today and preserve it for the future.

How to apply to earn the ENERGY STAR?

Buildings achieving an energy performance rating of 75 or higher and professionally verified to meet current indoor environment standards are eligible to apply for the ENERGY STAR. Find out how to [qualify your building as ENERGY STAR](#).

More information about the benefits of an ENERGY STAR label and the process of applying for the ENERGY STAR can be found at the following URL: http://www.energystar.gov/index.cfm?c=business.bus_bldgs

ENERGY STAR Leaders

Improved efficiency reduces pressure on our nation's power systems; helps businesses, governments, and other organizations save money; and, protects our environment. These important benefits are why EPA, in partnership with leading associations and state and local governments, is encouraging building owners across the country to become ENERGY STAR Leaders. ENERGY STAR Leaders are ENERGY STAR partners that demonstrate continuous improvement in energy efficiency organization-wide, not just in individual buildings. If every commercial and industrial building owner became an ENERGY STAR Leader, we as a nation would save more than \$20 billion annually while avoiding the greenhouse gas emissions equivalent to those of 30 million vehicles.

An ENERGY STAR Leaders designation helps an organization leverage its management success, as organizations with strong energy management often outperform their competitors by as much as 10%. Associations, financial analysts, and other stakeholders can use the Leaders designation as an objective way to distinguish leading organizations from their peers. In addition, with more than 68% of U.S. households recognizing ENERGY STAR as the national symbol for protecting the environment through energy efficiency,

ENERGY STAR Leaders can promote their energy efficiency improvements to customers and clients.

EPA highlights [ENERGY STAR Leaders on the ENERGY STAR Web site](#) as they qualify for each improvement milestone. In addition, each October, in conjunction with National Energy Awareness Month, EPA recognizes current ENERGY STAR Leaders for their accomplishments in improving the energy efficiency of their building portfolios.

Who is eligible to become an ENERGY STAR Leader?

EPA recognizes businesses and organizations as ENERGY STAR Leaders based on documented improvement in energy performance. To be eligible for recognition as an ENERGY STAR Leader, a business or organization must:

- Be an ENERGY STAR partner. If an organization is not currently a partner, it can [join ENERGY STAR today](#) to learn more about the importance of superior energy management and the many tools and resources available to ENERGY STAR partners;
- Own two or more facilities that are eligible to receive a rating using EPA's national energy performance rating system found in Portfolio Manager; and
- Have total ratable space comprising at least half of the total square footage owned.

Based on results from EPA's national energy performance rating system, ENERGY STAR Leaders recognition is provided for the following achievements: portfolio-wide energy efficiency improvements of 10%, 20%, 30% (or more) reductions in normalized energy use or an average energy performance rating of 75 or better portfolio-wide.

How does an organization apply for ENERGY STAR Leaders recognition?

Join ENERGY STAR (if it is not already a partner), and create an ENERGY STAR Leader's account in [Portfolio Manager](#).

Enter data for all buildings (including buildings eligible and ineligible to receive a rating). Portfolio Manager will aggregate the individual building data and determine the adjusted percent energy reduction across your portfolio of buildings. For those buildings eligible for a rating, the system will determine the average energy performance rating between 1 and 100 for the portfolio.

Demonstrate improvement by reducing its portfolio's normalized energy use by 10%, 20%, 30% or more, and/or, achieve an average energy performance rating of 75 or better across its entire building portfolio.

Apply for ENERGY STAR Leaders recognition as it achieves each milestone.

Where can an ESCO find more detailed instructions about setting up and managing a Leaders account in Portfolio Manager?

See the **Help** function within Portfolio Manager for more detailed information on how to establish and manage your Leaders account, and how to apply for ENERGY STAR Leaders recognition for your customer's achievements.

The ENERGY STAR Challenge

The ENERGY STAR Challenge is a national call-to-action to improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more. As noted above, this modest and achievable reduction would save about \$20 billion in energy costs and reduce greenhouse gas emissions by the equivalent of taking about 30 million cars off the road.

Who Can Take the Challenge?

Any building owner, from a small school to a large corporation, a local government or a national association, a community hospital or a hotel group, a manufacturing plant or an architecture firm —can be part of the ENERGY STAR Challenge and help improve the energy efficiency of America's commercial and industrial buildings by 10 percent or more.

ESCOS can help by recruiting their customers to join the Challenge, and by helping customers to implement EPC projects that accomplish the target energy use reductions. The list of Challenge activities reads like a page taken from the ESCO business model and includes helping customers to:

- Design commercial buildings and major renovations to be energy efficient
- Measure and track energy use
- Develop a plan for energy improvements
- Make energy efficiency upgrades
- Help spread the energy efficiency word to others
- Become an ENERGY STAR partner

ESCOs can access the Challenge materials and background information on the Challenge Web page at:

http://www.energystar.gov/index.cfm?c=challenge.challenge_toolkit

For further information about the ENERGY STAR program, please visit www.energystar.gov