

EXECUTIVE SUMMARY

EPC TOOLKIT FOR HIGHER EDUCATION | APRIL 2009



CLINTON
CLIMATE
INITIATIVE



AMERICAN COLLEGE & UNIVERSITY
PRESIDENTS CLIMATE COMMITMENT

The American Colleges and Universities Presidents' Climate Commitment (ACUPCC) and the William J. Clinton Foundation's Climate Initiative (CCI) have partnered to dramatically increase the number of energy efficiency retrofit projects in U.S. colleges and universities using Energy Performance Contracting (EPC) as one vehicle for implementation. EPC is a contractual and financing mechanism through which building owners can undertake comprehensive energy efficiency retrofits with minimal financial exposure and risk.

The ACUPCC and CCI, with the assistance of many industry experts, created a best practices toolkit as a comprehensive resource for signatories interested in learning about and conducting an EPC. It includes an EPC overview, highlights critical issues, provides in-depth financing information, contains sample documents, and details industry and state resources. The toolkit also describes CCI's Energy Efficiency Building Retrofit Program (EEBRP), which brings together private sector financial institutions, energy services companies (ESCOs), and product manufacturers to lower project costs and reduce risks in EPC projects. This toolkit is intended to support a project team throughout the EPC process, from early stage opportunity assessment to contract negotiation, implementation, and beyond.

TOOLKIT CONTENTS

AN INTRODUCTION TO EPC

This section provides an overview of ESCOs and EPC as a mechanism for achieving energy efficiency building retrofits.

CCI'S ENERGY EFFICIENCY BUILDING RETROFIT PROGRAM

This section describes CCI's EEBRP, ESCO commitment, EPC best practice terms and conditions, CCI's Purchasing Alliance and partnership with financial institutions.

THE CASE FOR INVESTING IN IMPROVED ENERGY PERFORMANCE ON CAMPUS

This section provides background on climate change and discusses climate change and the campus, the financial implications of business as usual, operational and maintenance issues, higher education's leadership, and the importance of energy efficiency in climate neutrality planning.

CRITICAL ISSUES IN DEVELOPING AND UNDERTAKING AN ENERGY PERFORMANCE CONTRACT PROJECT

This section includes a step-by-step overview of the five major development stages in the EPC project development process, including critical issues and recommendations. The appendix provides information on U.S. Environmental Protection Agency's Energy Star's online tool, the Portfolio Manager.

THE PERFORMANCE GUARANTEE

A key element of an EPC, this section discusses the guaranteed savings, and how and by whom they are calculated. It also covers a number of post-implementation issues that may affect the performance guarantee.

MEASUREMENT & VERIFICATION AND THE IPMVP

This section discusses the IPMVP, an internationally recognized M&V standard. It describes how to monitor energy savings after a project is complete and the associated costs.

ENERGY PERFORMANCE CONTRACTING FINANCING OPTIONS

This section offers a detailed overview of the various financing options for EPC-based energy efficiency and renewable energy projects, EPC's impact on credit rating, and a matrix of the options' distinguishing features.

SAMPLE DOCUMENTS

This section contains the following sample documents:

- Concept stage questionnaire for schools considering EPC.

- Sample oral interview questions for ESCOs.

- Sample RFQ incorporating CCI Best Practices.

ADDITIONAL RESOURCES

This includes information on external organizations, bibliography, sample guides, documents, toolkits, and state EPC resources for individual state procurement and statutes.

THE AMERICAN COLLEGE & UNIVERSITY PRESIDENTS' CLIMATE COMMITMENT (ACUPCC)

The ACUPCC is a high-visibility effort to address global warming by garnering institutional commitments to neutralize greenhouse gas emissions, and to accelerate the research and educational efforts of higher education to equip society to re-stabilize the earth's climate.

Building on the growing momentum for leadership and action on climate change, the Presidents' Climate Commitment provides a framework and support for America's colleges and universities to go climate neutral. The Commitment recognizes the unique responsibility that institutions of higher education have as role models for their communities and in training the people who will develop the social, economic and technological solutions to reverse global warming.

CLINTON CLIMATE INITIATIVE (CCI)

CCI's Energy Efficiency Building Retrofit Program (EEBRP) was the first program launched by CCI in May 2007, and brings together many of the world's largest energy service companies (ESCOs), global financial institutions, the suppliers of energy efficient equipment, and municipal, commercial, and educational building owners in a landmark effort to reduce energy consumption in existing buildings.

The EEBRP team negotiated best practice terms and conditions with ESCOs for EPC project development and implementation, and developed partnerships with financial institutions to design financing mechanisms to further expand the market for retrofits. In addition, CCI's Purchasing Alliance has negotiated discounted pricing agreements with more than 25 manufacturers of energy efficient products used in buildings, and is continually adding more partners and products to the list. The benefits of all of CCI's EEBRP current and future agreements are extended to all of its building owner partners and ACUPCC signatories.

ESCO COMMITMENT

CCI has negotiated agreements with major ESCOs that offer energy performance contracting to support "best practices" in EPC. In the past, large ESCO clients with significant leverage – typically the federal government – have received similar terms and conditions on EPC projects. These best practice terms and conditions provide guidance to EPC clients for procuring ESCOs and defining

contract stipulations that can help minimize project costs and risks, and maximize benefits. These terms and conditions promote transparency, protect building owner financial and operational interests, align the financial interests of the building owner and ESCO, and encourage an open partnership and shared mission.

EPC BEST PRACTICE TERMS AND CONDITIONS (T&Cs)

All of CCI's partners and ACUPCC signatories are entitled to negotiate the following terms and conditions and should discuss them during the earliest stage of project development and ESCO selection. In no way are these terms and conditions legally binding as provided in this document. It is the obligation of the institution to negotiate any applicable terms and conditions relating to the energy performance contracting process in their contracts. It should be noted that, where a university is bound by state laws governing EPC in their jurisdiction, the T&Cs may or may not be applicable.

GUARANTEED SAVINGS

At the end of the investment grade audit (IGA) process, the ESCO will provide the owner with a fixed minimum guaranteed monthly or annual energy savings, measured in kWh, BTUs, or other appropriate unit of energy. The energy savings are guaranteed by the ESCO. If these savings are not realized during the guarantee period, the ESCO will reimburse the owner for the shortfall.

GUARANTEED MAXIMUM PRICE (GMP)

At the end of the IGA process, the ESCO will provide a GMP for the recommended project. The owner and the ESCO will sign a contract to implement a project with a known, fixed maximum cost.

TRANSPARENT PRICING

ESCOs will use transparent pricing methods. The exact pricing methodology will be negotiated on each project.

CCI PURCHASING ALLIANCE PRICES

CCI will provide Purchasing Alliance discount and product information to the ESCOs.

GAIN SHARING

Any reduction of project cost below GMP will be shared between the ESCO and the owner in a negotiated percentage split.

STANDARD MEASUREMENT AND VERIFICATION (M&V) PROTOCOL

ESCO will use the International Performance Measurement and Verification Protocol (IPMVP) to measure and verify energy savings.

WHAT ARE ENERGY SERVICE COMPANIES (ESCOs)?

An ESCO, or Energy Service Company, is a business that develops, installs, and arranges financing for projects designed to improve the energy efficiency and maintenance costs for facilities over a seven to twenty year time period. ESCOs generally act as project developers for a wide range of tasks and assume the technical and performance risk associated with the project.¹

¹ National Association of Energy Service Companies (NAESCO) website: <http://www.naesco.org/resources/esco.htm>

WHAT ARE THE DISTINGUISHING FEATURES OF ENERGY PERFORMANCE CONTRACTING (EPC)?

EPC is an innovative form of contracting, developed to overcome the major barriers of delivering cost-effective energy efficiency. One of these barriers is the risk to the client that project generated resource savings may not be sufficient to provide an organization's minimum required return on capital. The key distinguishing feature of energy performance contracting is that, unlike traditional construction or services contracting, the ESCO takes on project performance risk to guarantee to the owner a minimum level of resource use reduction.

Another distinguishing feature of EPC is that ESCOs provide a turnkey service. The ESCO will be the party responsible for designing, implementing, and measuring the results of an EPC project. The ESCO can make a wide variety of recommendations for possible retrofit measures specific to each client's needs, including energy and water conservation measures, renewable energy systems, operations and maintenance services and training, and distributed energy generation.

RANGE OF POSSIBLE ESCO SERVICES IN AN EPC PROJECT

- Conduct resource efficiency audits to establish a baseline that will serve as the measure upon which the performance guarantee is based and identify resource saving opportunities.
- Develop recommendations for the systems and equipment to upgrade or replace, which fall into the following categories:
 - Lighting upgrades and replacement.
 - Heating, ventilation, and air conditioning (HVAC) system retrofits including boiler and chiller plant optimization and replacement, temperature control systems, etc.
 - Building "shell" improvements such as insulation, improved doors, window replacement and window films.
 - Energy Management Systems.
 - Water saving devices such as new faucets and toilets.
 - High efficiency motors.
 - Installation of sub-meters.
- Procurement of energy efficient appliances.
- Design and write equipment and construction document specifications.
- Develop a project budget and provide construction project management services securing and overseeing all subcontractors.
- Implement the recommendations.
- Supply and install energy generation capacity, including renewable options such as cogeneration/combined heat and power (CHP), biomass boilers, solar heating and power generation, fuel cells, micro-turbines, wind turbines, etc.
- Commission or re-commission of newly or previously installed equipment.

THE PERFORMANCE GUARANTEE

An EPC's performance guarantee is a contractual commitment by the ESCO to the client that project implementation will result in a specified reduction in energy and water use over a set period of years. In many EPCs the energy use savings, when translated into dollars based on existing and projected utility rates, will be sufficient to offset annual debt service on the project financing. If in a given year the guaranteed reduction in energy use is not achieved due to an ESCO-attributable performance failure, the ESCO will reimburse the owner the resulting dollar savings shortfall. Performance-based contracts can take different forms including:

GUARANTEED ENERGY SAVINGS

The ESCO guarantees that the project will result in a specified reduction in energy use over a set, contracted guarantee term, as measured by kilowatt hours, BTUs and other resource use metrics. If the guaranteed reduction in energy use is not realized as a result of factors pre-determined in the contract to be the ESCO's responsibility, the ESCO will pay the client the shortfall amount using utility rate calculations that are also pre-determined in the contract. Note the important distinction that the ESCO does not typically guarantee a reduction in utility bill charges because ESCOs cannot control utility rates. At the end of the project guarantee period, the building owner retains the full value of the energy savings.

SHARED SAVINGS

The ESCO and customer share the utility bill savings generated by an EPC project, with the share to each party defined in the EPC. The ESCO's share of the savings is the only compensation the ESCO receives for their services and equipment expenditures. The ESCO typically receives a greater percentage of savings in the early years of a contract, with its percentage decreasing over time.

TYPICAL PROJECT DEVELOPMENT PHASES

1. STAGE SETTING

- Set project goals and develop consensus.
- Conduct informal, educational meetings with ESCO.
- Ensure compliance with procurement procedure policies and, if a public institution, legal, regulatory, and performance contracting statutes.
- Begin discussions with internal staff, and potentially external financial experts, regarding financing options.

2. PROCUREMENT

- Draft procurement documents (Request for Qualifications (RFQ) or Request for Proposals (RFP)).
- Approve and release procurement documents.
- Submit proposals by specified due date.
- Review and evaluate ESCO bid submissions.
- Interview, check references (this may be done after the RFP process).
- Select winning ESCO(s), notify all ESCO(s) of final decision.
- If necessary, initiate a RFP process to select the finalist(s).

3. INVESTMENT GRADE AUDIT/INVESTMENT PROPOSAL

- Review campus' goals and constraints with the selected ESCO(s).
- Define Scope of Work for the Investment Grade Audit/Investment Proposal.
- Sign Project development Agreement (PDA) with selected ESCO(s).
- ESCO undertakes audit.
- Review and discuss recommendations.

4. IMPLEMENTATION

- Negotiate and sign EPC.
- Implement project.

5. MEASUREMENT AND VERIFICATION (M&V) AND BEYOND

- Client or client's representative to oversee and verify ESCO's M&V conclusions.
- Manage the risk of the degradation of resource savings.

FINANCE OPTIONS

Several options for financing EPC exist, each with particular characteristics that may appeal to owners' varying needs and constraints. Key tradeoffs worth considering include financing term, balance sheet treatment, transaction costs, payment requirements, ease of accessing capital, costs of capital, and an EPC's impact on an institution's credit rating. Options include:

- Internal sources of capital
- Commercial leases
- Capital leases
- Operating leases
- Tax-exempt lease purchase agreements
- Master lease agreement
- Capital markets
- Bonds
- Certificates of Participation
- Receivables Purchase Agreements
- Loans

USING AN ENERGY PERFORMANCE CONTRACT FOR RENEWABLE ENERGY

Including renewable energy in performance contracts is becoming more common, particularly with municipalities, but also with colleges and universities. Solar photovoltaic (PV) systems are the most common technology included in these contracts, but small wind and small biogas power projects have been included as well. In performance contracts that include renewable energy systems, the ESCO makes an assumption about the renewable energy system's ability to reduce demand for another energy-efficiency measure, in that it reduces traditional utility payments (and greenhouse gas emissions).

MEASUREMENT & VERIFICATION AND THE IPMVP

To ensure ongoing equipment performance and assess compliance with the performance guarantee, ESCOs typically conduct regular measurement and verification of energy savings and submit their analysis' results and annual reports to the building owner. The cost of the M&V services is capitalized into the overall project cost. M&V activities include ensuring that installed equipment is performing to specifications, and performing calculations of the project's actual energy savings. Ongoing M&V of resource savings helps protect an owner from savings degradation as a result of deteriorating or failing equipment performance.

A thorough M&V process is essential for two reasons. First, M&V assesses resource savings in regards to the performance guarantee. Second, M&V helps ensure that savings will persist over time. The most widely used M&V procedure for EPC projects is called the IPMVP and is included and supported in CCI best practice terms and conditions.

For questions, please contact:
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