

PROJECT FACT SHEET

ESCOs & Energy Performance Contracting

WHAT IS AN ESCO?

An ESCO is an accredited Energy Service Company that provides all of the services required to design and implement a comprehensive project at the customer facility, from the initial energy audit through the long-term guarantee of project savings with an Energy Performance Contract (EPC). The EPC provides customers with a comprehensive set of energy efficiency, renewable energy, and distributed generation measures and is accompanied with guarantees that the energy and operational savings produced by the project will be sufficient to cover the full cost of the project.

PROCESS

The process begins with the Preliminary Technical Audit (PTA) where multiple ESCOs provide high level analyses of a facility.

The PTA report provides a list of potential Energy Conservation Measures (ECMs) detailing:

- What each particular measure will cost
- What the expected annual savings will be
- Payback duration

The PTA is the primary basis for selection of an ESCO for a particular project. Once the PTA is complete and an ESCO is awarded the project, an Energy Audit Agreement is signed and the Investment Grade Audit (IGA) begins.

The IGA is the last step before the full Energy Services Agreement (ESA) is signed. Essentially, the IGA affirms for the owner that the technical and economic bases for the project are sound.

The IGA report provides a final list and design of all potential ECMs, related costs, and related guaranteed annual savings. If the university decides to proceed with a contract, the cost of the IGA will be rolled into the total project cost. The ESA is signed upon completion of the IGA, and construction can begin.

This guarantee creates a partnership between the owner and the ESCO, with the company financially committed to the project performing as intended.

VET MED ESCO PROJECT

The first EPC at the University of Illinois began with the approximately \$22M Veterinary Medicine ESCO project. The Vet Med ESCO project provided innovative energy efficiency and technology, demonstrable energy savings, and long-term financing solutions for modernization of our facilities and energy infrastructure. The project reduced the department's energy usage in more than a half a million gross sq. ft. by approximately 36% with an annual estimated cost avoidance of \$1M.

continued on back



Tour groups visit the Vet Med ESCO project to learn about its technology and energy conservation strategies



The Basic Sciences Building features new fume hood exhaust ductwork and heat recovery systems



The Large Animal Clinic displacement ventilation system improves energy efficiency while preserving occupant comfort

MEDIA CONTACT:
Steve Breitwieser
Customer Relations and
Communications
217-300-2155
sbreit@illinois.edu



Veterinary Medicine Basic Sciences Building

Deferred Maintenance Reduction

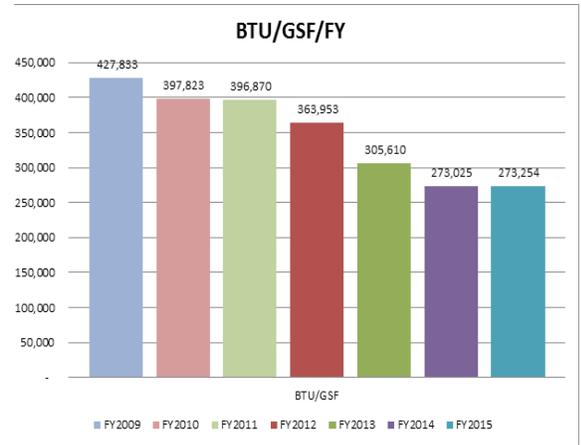
Along with the reduction of energy consumption, a significant amount of deferred maintenance has been reduced at the various Vet Med buildings. Due to the EPC, approximately \$25M was eliminated from the DM backlog. Additional benefits associated with this project include indoor air quality improvement, better quality of lighting, more reliable mechanical equipment, automated mechanical systems, and increased occupant comfort.



The new electric chillers installed as part of the Oak Street Chiller Plant ESCO project

Notable ECMs included in the Vet Med ESCO project:

- Cooling Tower Modifications
- Fume Hood Conversions
- Demand Control Ventilation
- VAV Retrofit
- Roofing
- Ward Displacement Ventilation
- Insulation
- Lighting Retrofits
- Occupancy Sensors
- Steam Trap Replacement
- Coil Cleaning
- AHU Upgrades/Replacements
- Motor Upgrades
- Doors/Weather-Stripping
- Chilled Water Variable Flow Reset



Vet Med Funding

The contract value, which was a guaranteed maximum price, totaled \$21.26M. Multiple funding sources were utilized to execute this project.

OAK STREET CHILLER PLANT ESCO PROJECT

The second EPC on any of the University of Illinois campuses was executed at the Oak Street Chiller Plant in Champaign. In 2010, chilled water capacity was increased along with thermal storage, cooling towers, and distribution piping and sewer to better serve the campus chilled water loop. The Oak Street Chiller Plant ESCO project installed two large tonnage electric chillers to provide improved efficiency to offset two steam driven chillers.

Notable ECMs included in the Oak Street Chiller ESCO project:

- Water-Cooled Chillers
- Refrigerant Storage
- Cooling Towers

The resulting cost avoidance will pay for the project in less than ten years. The total contract value for the Oak Street Chiller Plant ESCO project was \$10.7M.

GRANTS

F&S received more than \$2.3M Illinois Department of Commerce Economic Opportunity (DCEO) grants in FY12 for projects totaling more than \$9.3M, including work performed on the Vet Med ESCO project, Oak Street Chiller ESCO project, and for Retrocommissioning.

Illinois DCEO grants must follow specific requirements like standard and custom incentives in the program as well as meet overall requirements.

