

Energy Performance Contracting (EPC)



DEFINITION AND FUNDING

What is EPC?

Sometimes used interchangeably with the term “ESCO” meaning Energy Service Company.

- **Energy Performance Contracting:**
 - Construction program that provides all of the necessary services and materials required to implement a large-scale, comprehensive energy conservation project.
 - EPCs are unique in that the contract usually carries with it a guarantee from the contractor of a guaranteed level of energy savings.
 - EPC is specifically identified in Illinois Law as a means to hire a single contractor to design and build a project, as opposed to design-bid-build delivery methods.
 - EPC’s must have a payback of 20 years or less according to the statute.

What is EPC?

ECMs have different costs, paybacks and priorities.

- Energy Performance Contracting:
 - Consists of one or more “ECMs” or Energy Conservation Measures.
 - ECM’s are sub-projects that give decision-makers a menu from which to choose depending on budget, payback and priority.
 - ✦ Example: Some ECM’s for a building:
 - LED Lighting for Hallways and Common Areas. (3 –years)
 - Replace HVAC with more efficient unit. (5- 6 years)
 - Replace single-pane windows with double-pane energy efficient windows. (20 – 30 years)

What is EPC?

Payback essentially funds the project over time.

- **Energy Performance Contracting:**
 - Since ECM's have the potential to reduce or avoid energy costs, the payback associated with the project typically provides cash flow to finance the project.
 - Again, contractor guarantees cost avoidance.
 - Statutory Required to have a payback of 20 years or less.

EPC – A Simple Example



- You want to install solar panels on house to avoid future electricity costs and supplement your bill.
- Cost of contract: \$25,000
- Contractor guarantees you an annual savings of \$1,750 per year in electricity savings.
- You have to borrow the money to finance the project
- Using this simple model, can you afford to borrow the \$25,000 from a bank to finance the project?
- Answer is yes. At \$1,750/year, you would pay back your loan in less than 15 years and keep the savings going forward.

EPC – Real World



- Multiple Buildings in Program Plan EPC 003 – Engineering Campus
- ECM's have varying paybacks, and some parts of the projects may have no payback (Roofs, Duct work, etc.)
- Budget Estimate for Program Projects ~ \$ 128 M
- Overall Funding to Date ~ \$ 70 M
 - Utility Budget ~ \$40 M “Internal Loan” (repay over 10 yrs.)
 - ~~○ UA Reserve ~ \$29 M (5 years FY 15 – FY 19)~~
 - AFMFA ~ \$ 1 M (@ Loomis Lab)
- Potential Additional Funding
 - Auxiliaries / Departmental
 - Deferred Maintenance
 - ~~○ Potential Energy Grants~~
 - Campus Funds
 - 3rd Party Financing (Identify Debt Responsibility)

EPC– Funding Options



- How to Get to Recommended Project Cost of \$45 M
 - Scenario #1
 - ✦ Provide Add'l Campus or College Funds ~ \$12.5 M (AHU Repl)
 - ✦ Impact: Relieves UA Reserve and Internal Loan Deficits
 - Allows Funds to be Utilized for Future EPC Projects
 - Scenario #2
 - ✦ ~~Escalate all UA Reserves to Reach ~ \$41.0 M~~
 - ✦ Impact: No UA Reserve Funds Available for Future EPC Projects
 - Internal Loans May need to be Utilized to Execute Future EPC Projects
 - Includes Expanded Ventilation Strategy Priority Options 1, 2, 3, but May Not Include Expanded Ventilation Scope for MNTL and Supercon; Additional Scope Reductions May be Necessary

EPC Project #3 – Funding Options



- How to Get to Recommended Project Cost of \$45 M
 - Scenario #3
 - ✦ Borrow Funds to Execute Necessary Replacement Work
 - ✦ Impact: Loan has to be Repaid
 - Scenario #4
 - ✦ Limit Project to \$32.4M
 - ✦ Impact: May Not Resolve Facilities' Needs
 - Expanded Ventilation Strategies may not be executed at ESB, MNTL, or Supercon. Expanded Ventilation Strategies could be pursued at Seitz MRL and Loomis Lab, but approximately \$2M in cuts will be necessary to get under \$32.4M. Detailed scope evaluation will continue for partial building Expanded Ventilation options.
 - A Combination of the Above Scenarios Could be an Option

Summary



- Simply stated, energy conservation projects can be funded by leveraging future energy cost savings and/or cost avoidance.
- Real world complications arise as non-energy conservation projects are added to relieve DM backlog and funding sources dry up.
- In our fixed budget world, what happens if energy prices increase? Answer is that the potential for a cash payback becomes elusive.
- Budget cuts jeopardize our flexibility to fund EPC projects.