

Energy Performance Contracting Funding

SWATeam Recommendation
(Energy004)



Facilities & Services

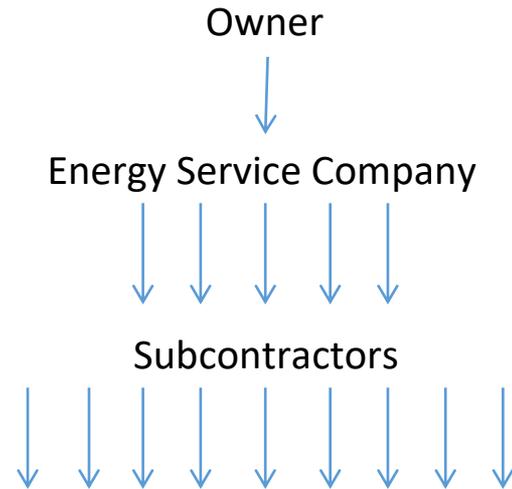
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What is an Energy Performance Contract (EPC)?

- Design/Build Project with a Performance Guarantee
- Audit + Engineering + Construction + Commissioning + O&M + Measurement/Guarantee
- Project Risk Transferred to Energy Services Company (ESCO)
- 20 Year Payback Maximum

Project Delivery Benefits

- **Guaranteed Utility / Energy Savings**
- Address Deferred Maintenance
- Aligned Goals
- Guaranteed Maximum Price
- Contract Structure / Single Point of Contact
- Bidding Process

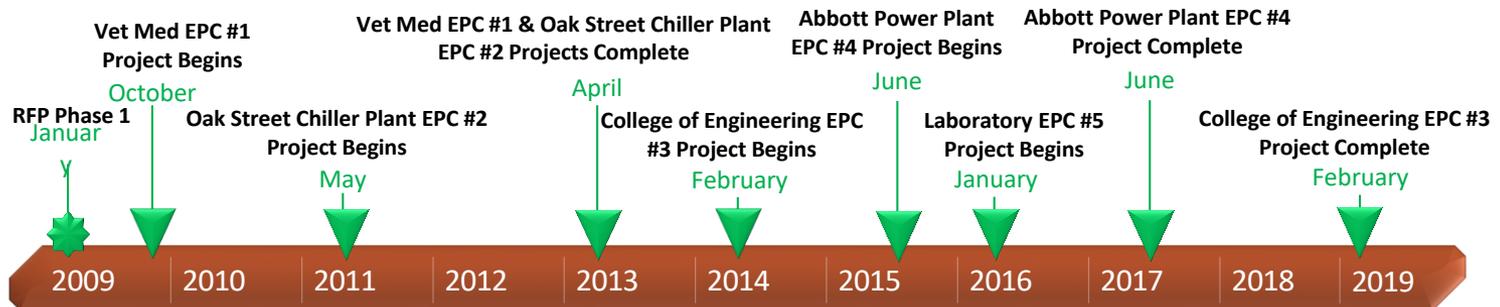


History at UIUC

- **Total Completed: \$75M**
- **Guaranteed Savings to Date: \$40M**
- Buildings Completed: 11 (4 Projects)
- Estimated Deferred Maintenance Reduction: \$40M

Range of Scope

- AHU Replacement
- New BAS Controls
- Energy Recovery Strategies
- Large Tonnage Chiller Installation
- Roof / Window Replacements
- Clean Room Installation
- Laboratory Controls Installation
- Fume Hood Replacement
- Building Envelope
- Process Water
- Cooling Tower Installation
- Lighting Retrofits



Performance: College of Veterinary Medicine

- Annual Average Reductions
 - Chilled Water: 21%
 - Electric: 11%
 - Steam: 38%
 - Water/Sanitary: 50%
 - **\$1M+ Annual Savings**
 - **55K+ Annual mmbTU Savings**
- Project Benefits
 - Est. Deferred Maintenance Reduction: \$25M
 - Indoor Air Quality Improvement
 - Improved Lighting Quality
 - Reliable & Automated Mechanical Systems
 - Improved Occupant Comfort



Vet Med Basic Sciences Building



Trust • Respect • Accountability • Integrity • Teamwork • Safety • Perseverance

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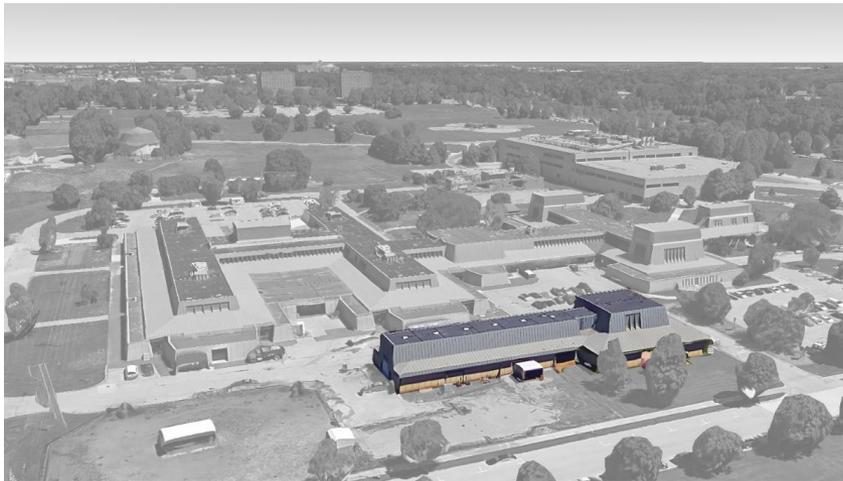
Veterinary Teaching Hospital



Trust • Respect • Accountability • Integrity • Teamwork • Safety • Perseverance

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Clinical Skills Learning Center



Performance: College of Veterinary Medicine

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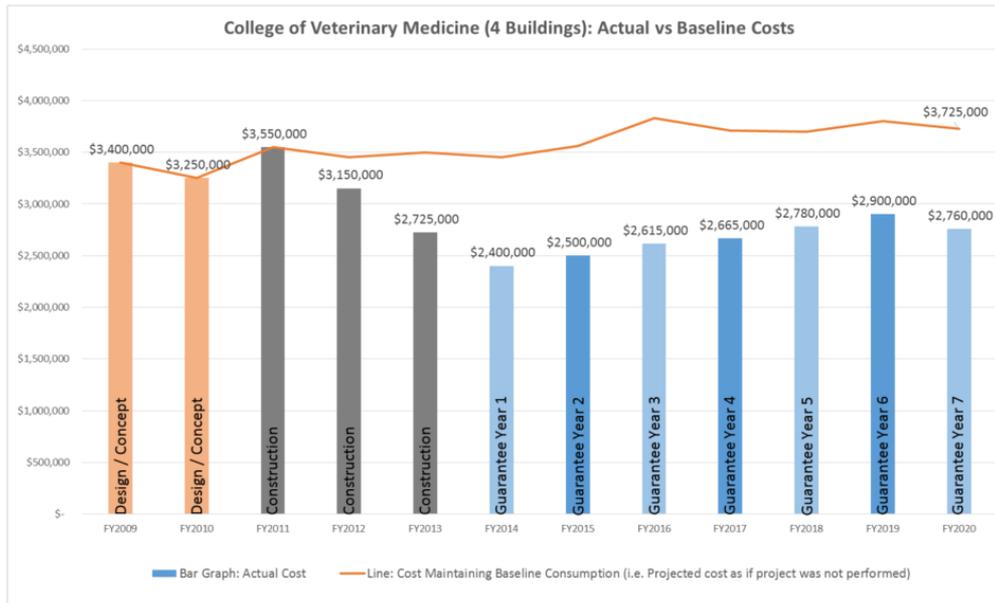
Vet Med Chiller Plant



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Performance: College of Engineering

- Annual Average Reductions
 - Chilled Water: 38%
 - Electric: 9%
 - Steam: 41%
 - Water/Sanitary: 90%
 - **\$2.1M+ Annual Savings**
 - **95K+ Annual mMBTU Savings**
- Project Benefits
 - Est. Deferred Maintenance Reduction: \$15M
 - Significant Water Consumption Reduction
 - Indoor Air Quality Improvement
 - Many New Fume Hoods
 - Reliable & Automated Mechanical Systems



Seitz Materials Research Laboratory



Performance: College of Engineering

- Annual Average Reductions
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Loomis Laboratory of Physics

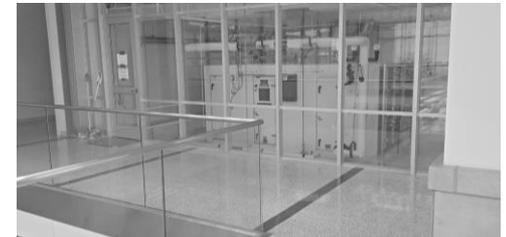


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Superconductivity Center



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Engineering Sciences Building



Performance: College of Engineering

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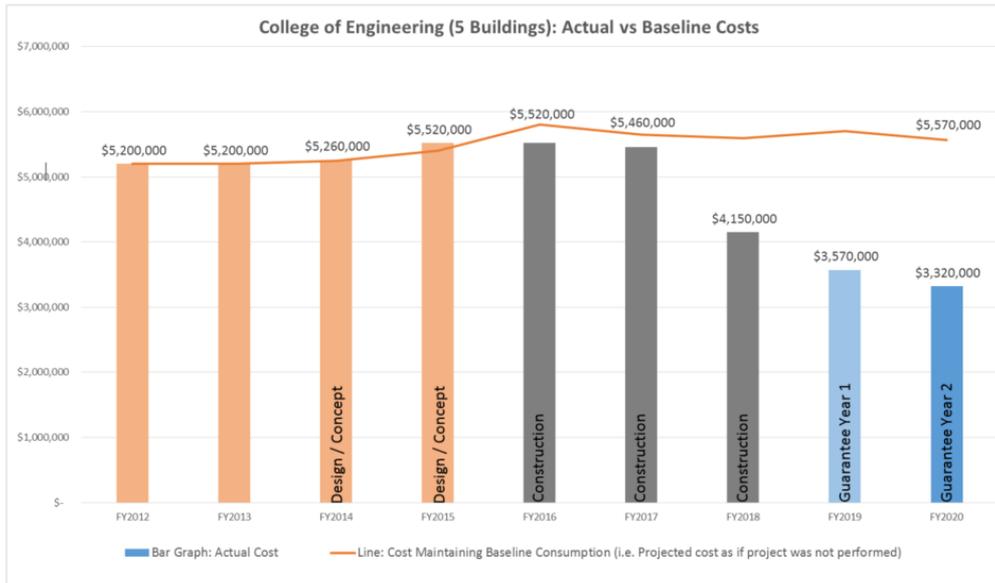
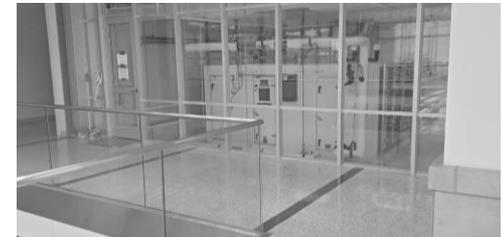


Micro & Nanotechnology Laboratory



Performance: College of Engineering

- Annual Average Reductions
 - Chilled Water: 38%
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 - Steam: 41%
 - Water/Sanitary: 90%
 - **\$2.1M+ Annual Savings**
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Current Project: Laboratory Facilities

- Total Project Value: \$33.6M
- Number of Buildings Affected: 6
- Annual Guaranteed Savings: \$2M per year
- Estimated Deferred Maintenance Reduction: \$27M

Funding

- Utilities & Energy Services: \$16M
- Provost / Deferred Maintenance: \$12.7M
- Department: \$4.9M



Chemical & Life Sciences Lab



Roger Adams Lab



Beckman Institute



Forbes Natural History Building



Illinois Sustainable Technology Center

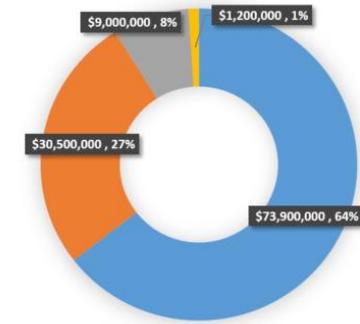


Natural Resources Studies Annex



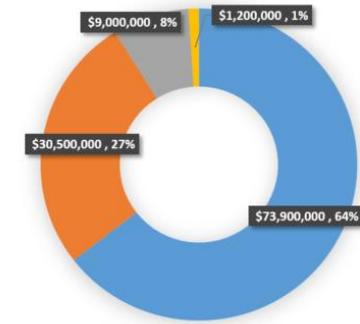
Overall Funding Status

- Total Funds Committed to Program (All 5 Projects): \$110.5M
 - Utilities & Energy Services (Including Borrowed Funds): \$73.9M
 - Provost / Deferred Maintenance: \$30.5M
 - Department: \$9M
 - Grants: \$1.2M
- Remaining Funds for Future Projects: \$4M



Overall Funding Status

- Total Funds Committed to Program (All 5 Projects): \$110.5M
 - Utilities & Energy Services (Including Borrowed Funds): \$73.9M
 - Provost / Deferred Maintenance: \$30.5M
 - Department: \$9M
 - Grants: \$1.2M
- Remaining Funds for Future Projects: \$4M



THIS IS NOT ENOUGH

Future Planned Projects Estimated Total: \$95M

Deferred Maintenance Backlog Pushing \$800M



Future EPC Plans



Facilities & Services

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Large Scale EPC Projects

- Next Laboratory Facilities Project
 - Estimated Project Cost: \$40M
 - Number of Buildings Affected: 7
 - Projected Annual Savings: \$1.5M
 - Target Schedule Spring 2021 – Summer 2024

- Future Laboratory Facilities Project
 - Estimated Project Cost: \$33M
 - Number of Buildings Affected: 3
 - Projected Annual Savings: \$1.1M
 - Target Schedule: Spring 2024 – Summer 2027

- Included Buildings
 - Animal Sciences Laboratory
 - Turner Hall
 - Madigan Laboratory
 - Institute For Genomic Biology
 - ACES Library
 - National Soybean Research Center
 - Plant Sciences Laboratory

- Included Buildings
 - Burrill Hall
 - Medical Sciences Building
 - Morrill Hall



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Small Scale EPC Projects

- Multiple Individual Building Projects
 - Estimated Project Cost: \$22.7M
 - Number of Buildings Affected: 13
 - Projected Annual Savings: \$1.3M



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