



Energy Conservation Incentive Program (ECIP)

2025 Awards Celebration

F&S Utilities & Energy Services (UES)



ECIP

ENERGY CONSERVATION INCENTIVE PROGRAM

- 2:15 Pre-Session Setup and Networking
- 2:30 Welcome, Introductions, and ECIP Overview
- 2:40 UES Informational Presentation & ECIP Award Winners
- 3:45 Wrap Up, Q&A, and Networking
- 4:00 Thank You!



Jeff Angiel

Associate Vice Chancellor and Executive Director of
Facilities & Services



Rob Roman

Director of Utilities & Energy Services







UES

Funding Opportunities

Trust · Respect · Accountability · Integrity · Teamwork · Safety · Perseverance



Revolving Loan Fund

- Funding source for Departments to execute energy conservation projects
- UES announces when the program is open for project applications, typically when sufficient funding is available.
- Energy cost savings repay loan
- LED lighting retrofits, occupancy sensors for HVAC + lighting, HVAC/TC upgrades, and more
- go.fs.illinois.edu/RLF



Energy Efficiency
PROGRAM

Ameren Illinois Energy Efficiency Business Program

2025 Incentives & project help!

Rod Rhoads-Energy Advisor





Utilities & Energy Services

Associate Directors

Sylvia McIvor

Associate Director of Energy Performance Contracting

David Hardin

Associate Director of Energy Management Systems (Controls)

Karl Helmink

Associate Director of Energy Conservation &
Retrocommissioning

Anthony Spurlock

Associate Director of Business Operations



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UES

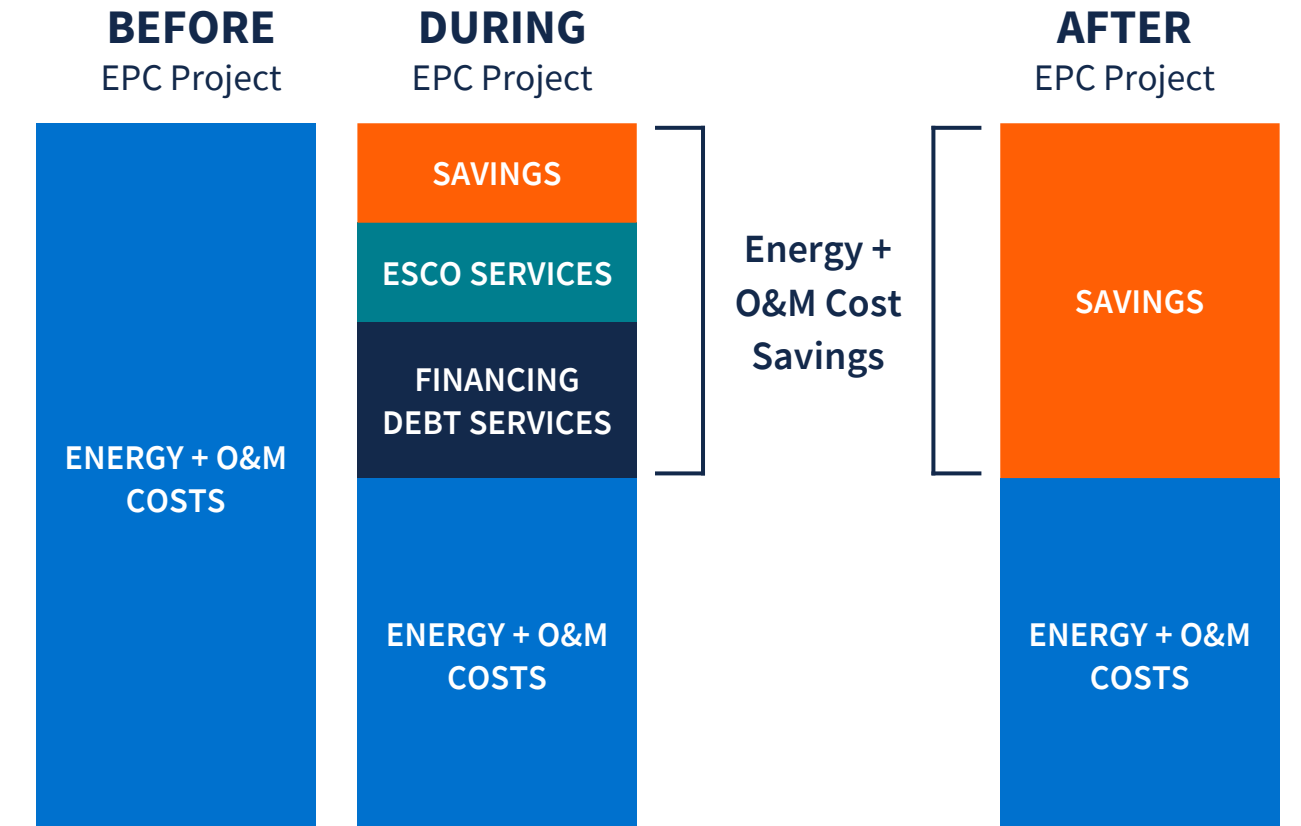
Energy Performance Contracting (EPC)



How EPC Works



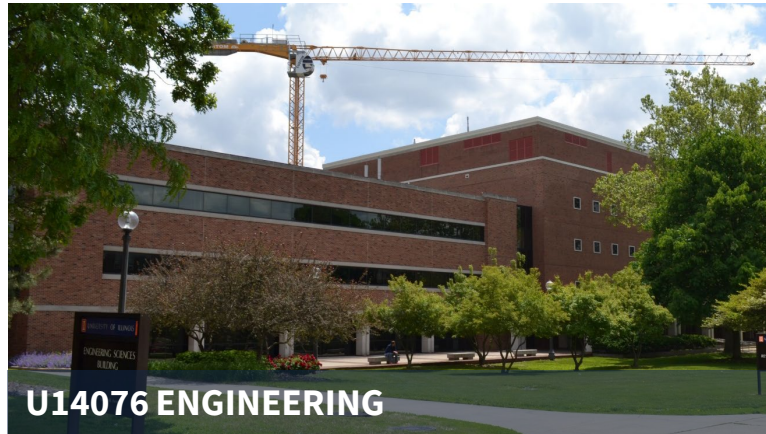
- Public University Energy Conservation Act (110 ILCS 62)
- Partner with 1 of 12 pre-qualified energy service companies (ESCOs)
- Implement energy conservation measures (ECMs) to enhance energy efficiency and reduce costs
- Guaranteed energy and operational savings meet or exceed cost of ECMs **within 20 years**



Completed Projects



U11026 VET MED



U14076 ENGINEERING



U16061 LAB FACILITIES



U11080 OAK STREET



U15057 ABBOTT



U21080 CAMPUS CHILLED WATER

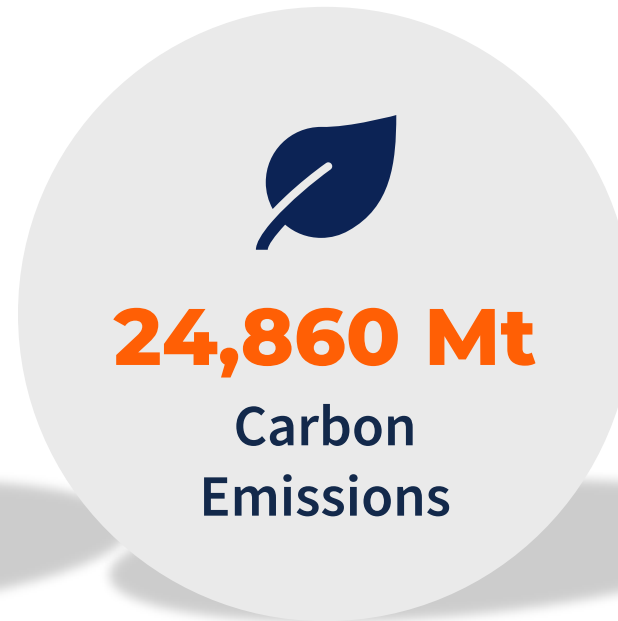




Program Achievements



EPC projects address critical building and equipment upgrades that have been postponed due to a lack of funds.



The program has reduced the campus' carbon emissions by nearly twenty-five thousand metric tons each year.



ESCOs guarantee the utility cost savings associated with each project for the term of the agreement (up to 20 yrs).



Campus Chilled Water System Optimization - EPC Project 006

- **\$2.5M** ESCO Contract
- **4,816 MTCO₂e** Saved Annually
- **\$265K** Guaranteed Annual Savings
- **10-Year** Payback *Guaranteed*
- **2-Year** Payback *Projected*
- **\$862K** Ameren EE Incentive



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Energy Management Systems





Energy Management Systems(EMS)



FY24/25 Group completed ~ \$6M in control Improvements

- Obsolete Building Automation replacements
- Pneumatic to DDC Conversions
- Constant Volume to VAV
- Occupancy sensors
- Outside Air modifications
- Building Recommissioning visits

ReCommissioning (ReCx)

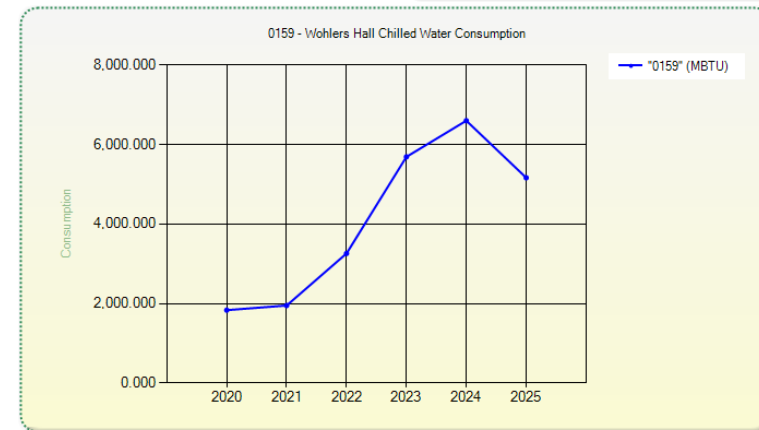
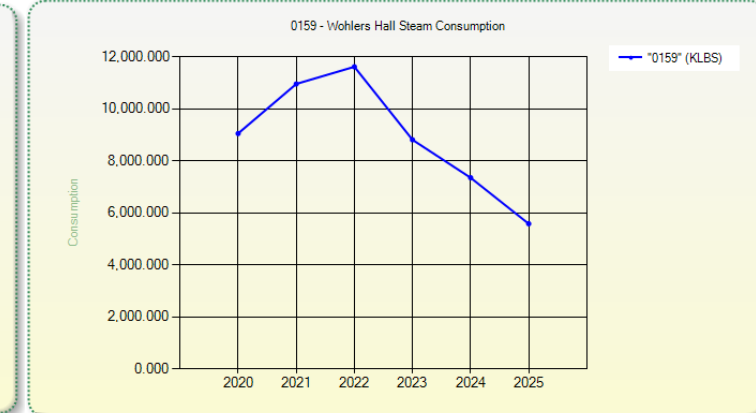
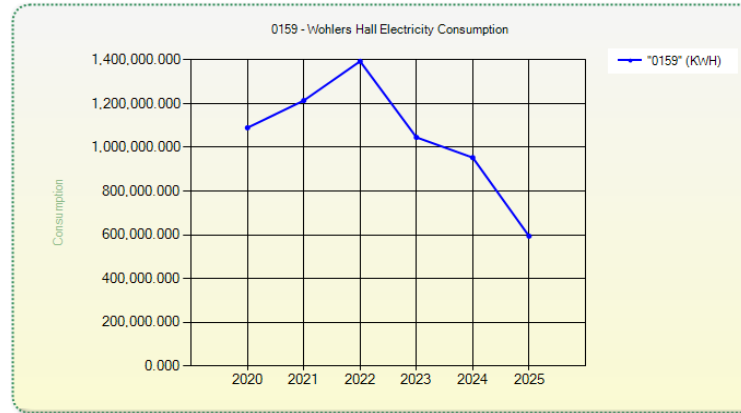


- Established in 2014 and expanded to 5 ReCx teams
 - Composite crew: Electricians, Sheet Metal, Temperature Control, Management Engineer, Programmer
- 86 buildings visited (over 10.6 million square feet)
- Building visits have resulted in 10%-59% reduction in energy
- Annual avoidance:
 - 237,547 MMBTU and \$4.1M
 - CO2 reduction of 12,569 tonnes

ReCommissioning – Wohlers Hall



- **In Progress**
 - Completion in September 2025
- **Project Scope**
 - Convert Pneumatic to DDC
 - Convert Constant Volume to VAV
 - Control Valve Replacement
 - Damper replacements
 - Occupancy sensors
- **Project Results**
 - FY25 Cost Avoidance to date \$110,200
 - Estimated Cost Avoidance around \$200K/year



FY24 – 4th Place Energy Advancement Award

Animal Sciences Laboratory



- Energy consumption down 18.2%
- Cost avoidance over \$37k
- 1.6-year ROI
- no Ameren incentive



FY24 –Honorable Mention Occupant Action Award

Foellinger Auditorium



- Energy consumption down 24.1%
- Cost avoidance over \$9,315
- No incentive available, ongoing cost managing schedule

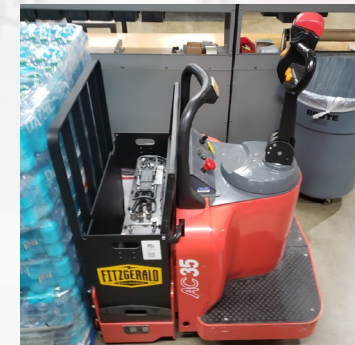


FY24 - 4th Place Occupant Action Award

Central Receiving Building



- Energy consumption down 24.3%
- Cost avoidance over \$17k
- ROI including Ameren incentive was instant incentive at time of purchase



FY24 - 3rd Place Occupant Action Award

1207 W. Oregon St. Urbana



- Energy consumption down 24.4%
- Cost avoidance over \$4,649
- Steam radiator project ongoing
simple payback not available



FY24 - 1st Place Energy Advancement Award

Temple Hoyne Buell Hall



- Energy consumption down 42.1%
- Cost avoidance over \$94k
- 6-year simple payback including a \$75k Ameren Incentive



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Energy Conservation & Retrocommissioning





RetroCommissioning Overview & Successes



- Started in 2007
- 90+ buildings
- 13-14 million square feet
- Over \$120M in avoided energy costs
- Approximately 27% average building energy reduction
- Approximately \$20M in energy grants

Auxiliaries' Contribution



- They have saved \$14.5 million in avoided cost.
- They are 50% of campus space.
- Good projects are being done.
- More projects and funding are needed, \$\$.
 - Just like in other campus entities :)

Energy Utility Index (BTU/GSF)

FY2007 to FY2024

F&S Utilities & Energy Services

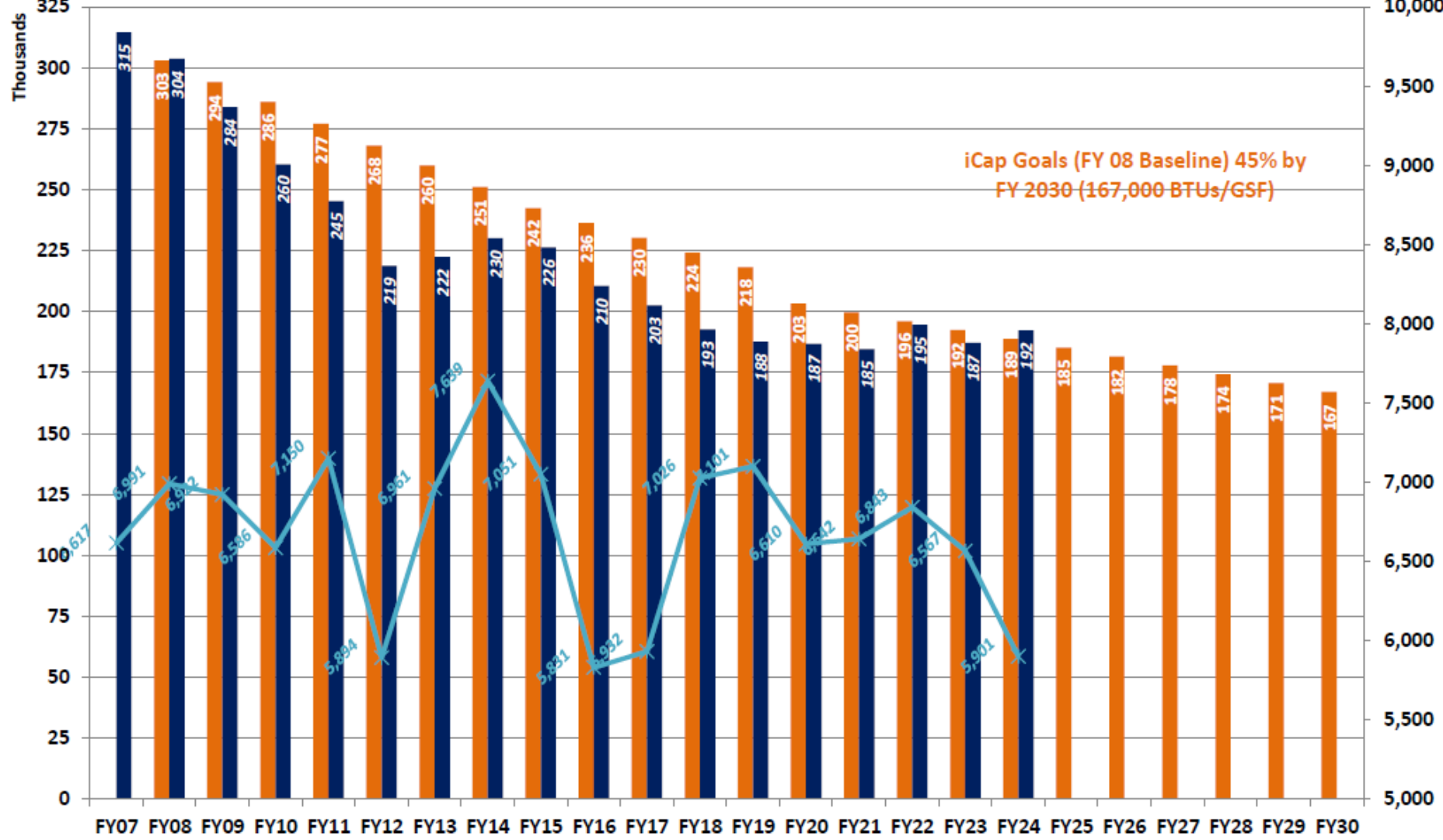
BTU/GSF

iCAP Goals, BTU/GSF

Gross input, BTU/GSF

Total Heating and Cooling Degree Days

Degree Days



*Gross square feet (GSF) includes UIUC owned space in Champaign and Urbana and gross input EUI excludes BTUs for Petascale electricity.



Composite Team

RCx – Energy focused, 6-person team

2 electricians, 2 temp control,
2 sheet metal
+2 engineer/programmers



Auxiliaries play an important role

RCx has worked with

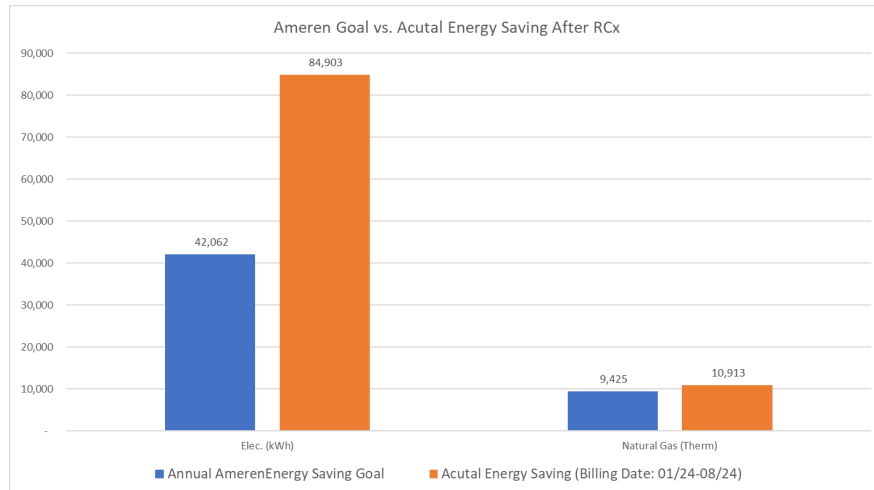
- Campus Recreation
- Illini Union
- SDRP Ikenberry Dining hall
- CRCE
- Bielfeldt
- State Farm Center
- FAR
- ISR



RCx- I Hotel Conference Center



- Alpha Controls Upgrade
- Advanced Scheduling and Diagnostics
- VAV adjustments, replaced reheat valves, added CO2 sensors



- Two projects total cost avoidance = \$115,413
- Ameren energy efficiency incentive = \$112k
- Projected simple payback with Ameren incentive is under 2 years



RCx Recent Projects

- Armory – Phase 1 Upgrading VAV box controllers
- ISR Dining, Wardall, Townsend Residence Halls
- Bousfield/Wassaja Residence Halls
- I Hotel Conference Center Phase 1 – Alpha Controls
- MEB – Mechanical Engineering Building
- CIF – Campus Instructional Facility

RCx Current Projects

- Armory – Phase 2 Upgrading VAV box controllers
- Civil Engineering HydroSystems Lab - RCx work is finishing
- Newmark Civil Engineering Bldg. – RCx team current
- Loomis Laboratory of Physics – Occ sensors, then RCx
- Public Safety – Alpha controls upgrade
- Illini Union – Scheduling software and controls upgrade

Upcoming

- Siebel Center for Design
- Irwin Doctoral Study Hall

Future Prospects

- CRCE -Campus Recreation Center – East
- Lincoln/Allen Residence Hall

FY24 – Honorable Mention Energy Advancement Award

Campus Instructional Facility



- Energy consumption down 17.9%
- Cost avoidance over \$32k
- Simple payback of 7 years
Ameren incentive was not applied to this project

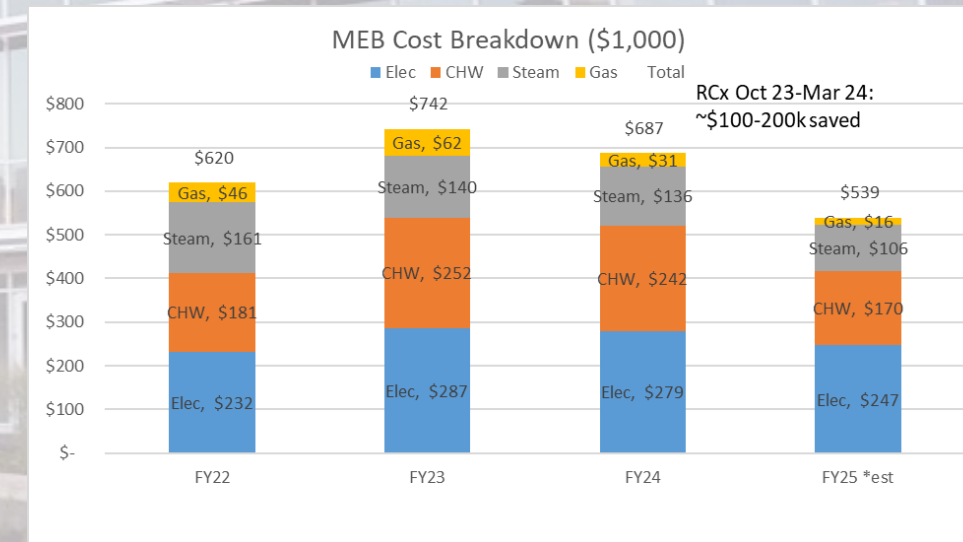


FY24 - 3rdst Place Energy Advancement Award

Sydney Lu Mechanical Engineering Building



- Energy consumption down 18.7%
- Cost avoidance over \$110k
- 2.8-year ROI including a \$387k Ameren Incentive



FY24 - 2nd Place Energy Advancement Award

Robert A. Evers Laboratory



- Energy consumption down 22.3%
- Cost avoidance over \$8k
- RCx work, no Ameren incentive.



FY24 - 2nd Place Occupant Action Award

Illini Union Bookstore



- Energy consumption down 24.7%
- Cost avoidance over \$39,569
- 13.5-year ROI including a \$95k Ameren Incentive

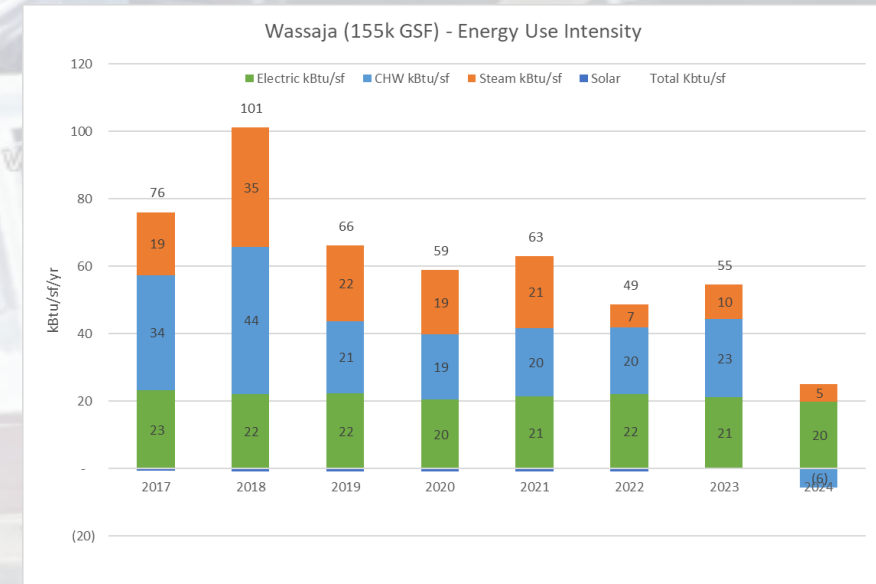


FY24 -1st Place Occupant Action Award

Wassaja Hall



- Energy consumption down 35.8%
- Cost avoidance over \$45,649
- 6.5-year Payback including a \$208k Ameren Incentive
- Reduced DOA based on use
- Heat Recovery Chiller
- Hot water for showers
- Excess CHW goes back to campus



FY24 – Every Little Bit Adds Up to Make a Big Difference

New Category for this year



FY24 ECIP AWARDS	
Every little bit adds up to make a big difference	Improvement Percentage
President's House	12.31%
Campus Chiller Water System Optimization	17.06%
South Farms-Manure Shed	58.64%
Vet Res Swine-Finishing Bldg	62.27%
Pollinatarium	68.64%
Fruit Research Farm-Equipment bldg	92.59%

While *Not ECIP eligible*, these folks made a big percentage difference with exemplary operational management in energy efficiency, **let's give them a round of applause!**

FY24 – Keeps on Giving Category

Recognizing ongoing achievements



FY24 ECIP AWARDS			
Keeps on giving category	FY24 Improvement Percentage	Total Improvement Percentage	Total Cost Avoidance
Stock Pavilion	41%	70%	\$98,293
Illinois Sustainable Technology Center	18.11%	61%	\$162,137
Children's Research Center	15.84%	35%	\$30,125
Grainger Library	13.9%	19%	\$83,500
ACES Library	9.1%	44%	\$158,315


Total = \$532,370

These buildings have continued to reduce energy consumption **two and three years post project completion.**



ENERGY CONSERVATION
INCENTIVE PROGRAM

Q&A and Networking

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Thank you for your
collaboration, teamwork,
time, and participation!

