**SWATeam Recommendation**

Name of SWATeam: Energy SWATeam
SWATeam Chairs: Bill Rose & Andy Stumpf Date Submitted to iWG: April 3, 2020

Title: **Energy Conservation Funding through Energy Performance Contracts with Energy Service Companies. (New in 2018)**

Specific Actions/Policy Recommended (a few sentences):

We recommend $10M per year (scalable) of funding for the next 5 years to implement critical projects that **work in concert with energy performance contracts** (EPC) and/or energy focused capital projects. EPC contracts are fulfilled by specialized, accredited firms known as energy service companies. The university uses EPCs to manage complex projects targeting facilities with high energy use, such as laboratories, maximizing energy efficiency and addressing sizable volumes of deferred maintenance issues along the way. The campus backlog on deferred maintenance is approaching $1 billion.

Rationale for Recommendation (a few sentences):

Energy performance contracting allows UIUC to install new or upgraded energy-efficient equipment by leveraging guaranteed future energy savings. But that guaranteed savings over the years of the contract is only achievable through regular planned maintenance on the equipment. The attached EPC summary shows 6 major EPC projects planned or proposed. These projects cover installations of energy efficient equipment along with addressing regular/deferred maintenance. The $10M is needed to support these projects.

The planned and proposed projects on the attached list should be completed soon to reduce campus energy consumption ASAP. Finances, as specified in this recommendation, should be secured so that the campus utility bill can be reduced by millions of dollars per year sooner rather than later.

The cost avoidance through these contracts is enormous. For example, the College of Veterinary Medicine EPC resulted in an estimated cost avoidance of $1.4M in the first year with a $44M cost-avoidance planned over the 20 years of the contract. The attached list shows that completed contracts worth $106.2 million are estimated to result in $206 million in energy cost avoidance over the 20 years of the contract.

We have a large inventory of older inefficient HVAC systems. It will take many years to replace these systems. 50% energy reductions are likely to be achieved in these buildings. We would recommend that more of these projects be done sooner rather than later. These are difficult projects that require occupants to be relocated.

 Energy consumption at UIUC is down an impressive ~38% since the beginning of iCAP (2008). Similar gains will be more difficult in the future as we turn to larger projects with slower payback. The iCAP goals are ambitious and mandate us to act boldly and robustly with energy conservation.

Connection to iCAP Goals (a few sentences):

Energy Conservation and Building Standards objectives:
• “Strengthen centralized conservation efforts focusing on building systems to achieve a 50% reduction in total campus building energy use by FY30.”

Perceived Challenges (a few sentences):

Energy conservation projects are sometimes viewed as discretionary, but it is critical to understand that immense savings can be realized by spending money on energy conservation efforts. The challenge is always to allocate funding during austere times to support a vital, but not necessarily immediate, cost savings set of programs. Thus, it is challenging to convince decision makers to **spend now to save later.**

Suggested unit/department to address implementation: Office of the Provost
Anticipated level of budget and/or policy impact: **High** (continued funding and development of campus conservation programs).
Individual comments are required from each SWATeam member (can be brief, if member fully agrees):

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| Team Member Name  | Team Member’s Comments  |
| Bill Rose  | This proposed work has my highest recommendation. The current retrocommissioning effort has proven itself to be a success and must be pursued more vigorously. The campus has seen a 30% reduction in energy use, excluding the impact of new buildings, and by far the biggest contributor to those savings is retrocommissioning. |
| Yun Kyu Yi  | This is a must-do action that needs to meet our iCAP goal. I strongly request the university to consider this recommendation as the most priority.  |
| Karl Helmink  | Excellent way to reduce campus energy consumption as quickly as possible. Larger amounts of deferred maintenance work could be completed. Larger lab buildings with high energy costs would be addressed.  |
| Dave Boehm  | This program has a proven track record of delivering excellent results. Funding this for whole building improvements is an important level to increase our ability to meet iCAP goals. |
| Tugce Baser | Unavailable for comment |
| Mike Larson | Of the 4 recommendations that the Energy SWATeam is proposing at this time, this one is the clear #1 from my perspective. We know the energy savings associated with the retro-commissioning activities, and that all of these dollars spent will have a payback in energy saved and reduced emissions. |
| Andrew Stumpf | I fully support this recommendation. Providing Energy Conservation Funding through Energy Performance Contracts with Energy Service Companies is important in making campus and ancillary buildings further improves their energy efficiency that will contribute to the iCAP 2050 goal of carbon neutrality. Combining this effort with building envelope upgrades under a well-designed Energy Master Plan will optimize the efforts being made, perhaps bringing these buildings up to the campus’ minimum LEED® Silver certification. |
| Tim Mies | I fully support this recommendation as strongly as the Building Envelope Recommendation. Energy reduction must be as high a priority as renewable energy production if we are to achieve our icap goals in a practical and meaningful way. Fully support this recommendation as these activities will continue to lower the operation costs / energy consumption which must go hand in hand with renewable low carbon energy investments. Decreased energy costs from these projects could be used to support new projects or new energy initiatives, amplifying this investment. |
| Jayce Carlson | I also highly support this recommendation because we clearly know our cost and savings associated with it. I think this is almost ties with Building Envelopes, and is a great economic and sustainable investment.  |
| David Rivera-Kohr | I support this recommendation. Reducing wasteful energy expenditure is critical for reducing campus emissions and saving money. This freed capital can be reinvested into energy conservation or renewable energy generation efforts. Addressing deferred maintenance will bring the University closer to the iCAP goal of carbon neutrality and will allow renewable energy technologies to constitute a larger portion of campus energy production. |
| Marcela Vega | As this recommendation targets directly the building's energy efficiency, it is one the most relevant recommendations that will help to accomplish iCAP goals. I strongly support this recommendation.  |

Comments from Consultation Group (if any; these can be anonymous):

Explanation and Background (can be supplied in an attachment):

This recommendation is specifically aimed at funding the EPC projects although capital projects could deliver these projects.

The recommendation put forward emphasizes the importance of funding energy conservation efforts that align with the commitments outlined in the iCAP. Compared to other Big Ten schools, the University’s maintenance is underfunded. However, campus energy usage is similar to other Big Ten schools and has shown dramatic improvement since FY 07.

Even in these austere times, spending money to conserve energy means saving money in the long run. Other sources of funding are potentially available including Stewarding Excellence funds which could be used for these initiatives. U of Illinois Foundation funding should be pursued.

1. EPC funding/benefit spreadsheet is attached.
2. See UES website for background information on prior EPC projects.

http://www.fs.illinois.edu/services/utilities-energy/energy-conservation/energy-performance-contracting