



# ENERGY CONSERVATION & BUILDING STANDARDS

More than 80% of campus greenhouse gas emissions result from on-site combustion and grid electricity purchases that heat, cool, and provide electricity to campus buildings. Consequently, achieving our carbon neutrality goal will require a strong building energy conservation program, and this is considered top priority as it leads directly to both emission reduction and cost savings that can facilitate even further emission reductions. The ECBS SWATeam members recommend actions the Urbana-Champaign campus can take to best reduce building energy consumption.

## OBJECTIVES

### 1. Maintain or reduce the campus gross square footage relative to the FY10 baseline.



Status: Policy adopted. Implementation in progress

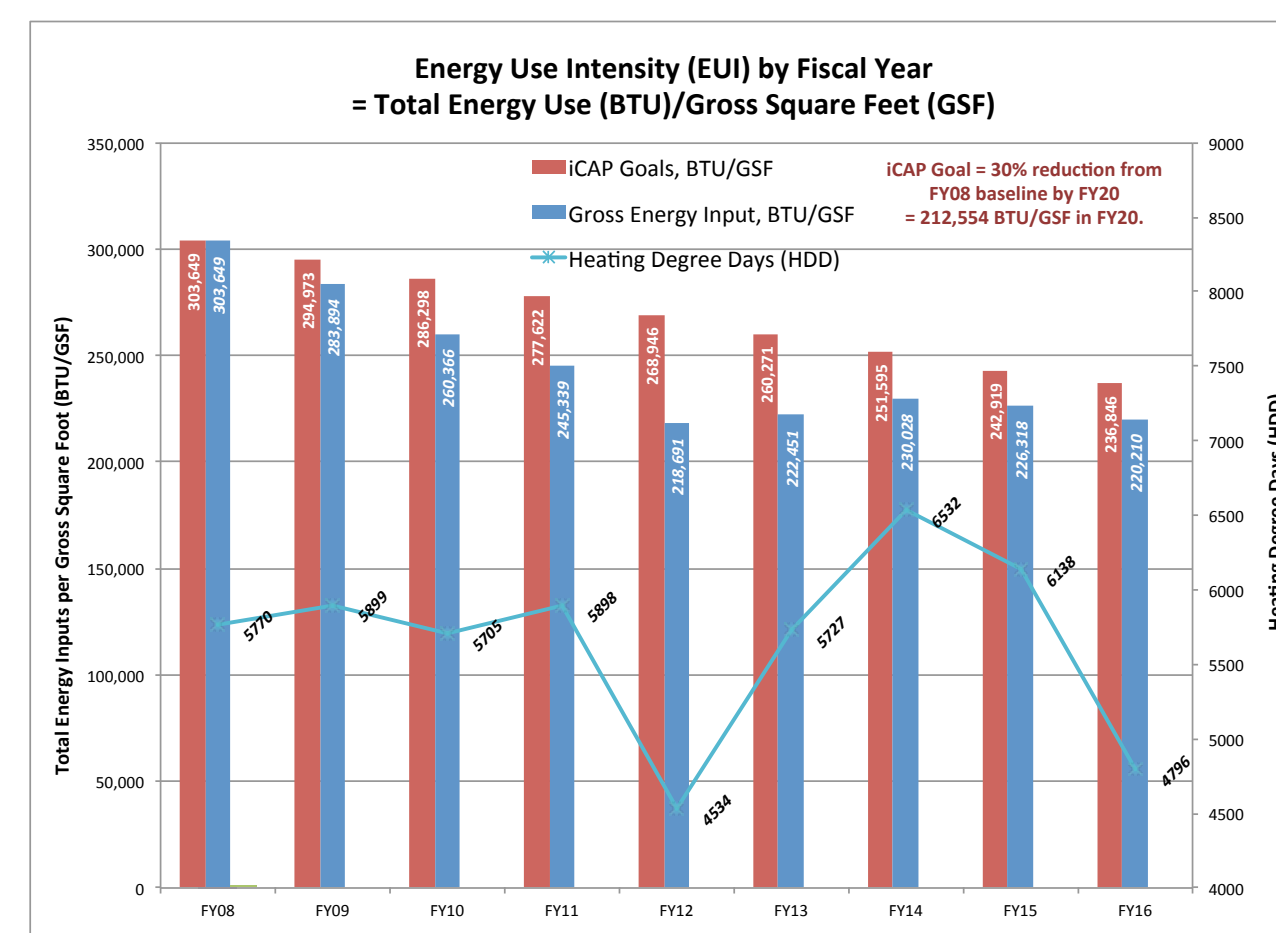
- In 2015, the Net Zero Space Growth Policy was approved and adopted into the Campus Administrative Manual. Effective July 1, 2015.
- Provost Office charged the Associate Director for Space Analysis, Jill Maxey, to track the Gross Square Footage of campus and the "Space Bank" amount.
- Space Bank has been used in FY16 and FY17 to approve the Design Center, a Memorial Stadium project, and some smaller-scale projects.
- We acknowledge that the overall process for keeping campus aligned with this important space reduction goal is still under discussion and will involve substantial changes in how we as a campus view and manage our space.

### 3. Strengthen centralized conservation efforts focusing on building systems to achieve a 30% reduction in total campus building energy use by FY20. This includes meeting the LED Campus commitment.



Status: In progress

- Based upon the FY16 energy data, we have achieved a 27% energy reduction.
- ESCO projects are continuing. Retrocommissioning (RCx) proposed projects are being discussed at the Illini Union and Memorial Stadium. RCx accrued avoided utility costs totaling more than \$38 million in nine years of operation.
- Energy conservation efforts in campus labs, especially centered on fume hoods, are ongoing.
- More funding is needed to achieve more energy conservation.



### 2. Identify the highest achievable energy standards for new buildings and major renovation, and incorporate these into the campus facility standards by the end of FY16.



Status: In Progress

- Adopted American Society of Heating, Refrigerating and Air-Conditioning Engineers' (ASHRAE) 90.190.1-2013 energy standard — superseding the ASHRAE 90.1-2010 standards — for new construction.
- Will exceed energy savings that are specified in the most current LEED version by 8%.

### 4. Engage and incentivize the campus community in energy conservation, including a comprehensive energy campaign, with at least 50% of units participating by FY20.

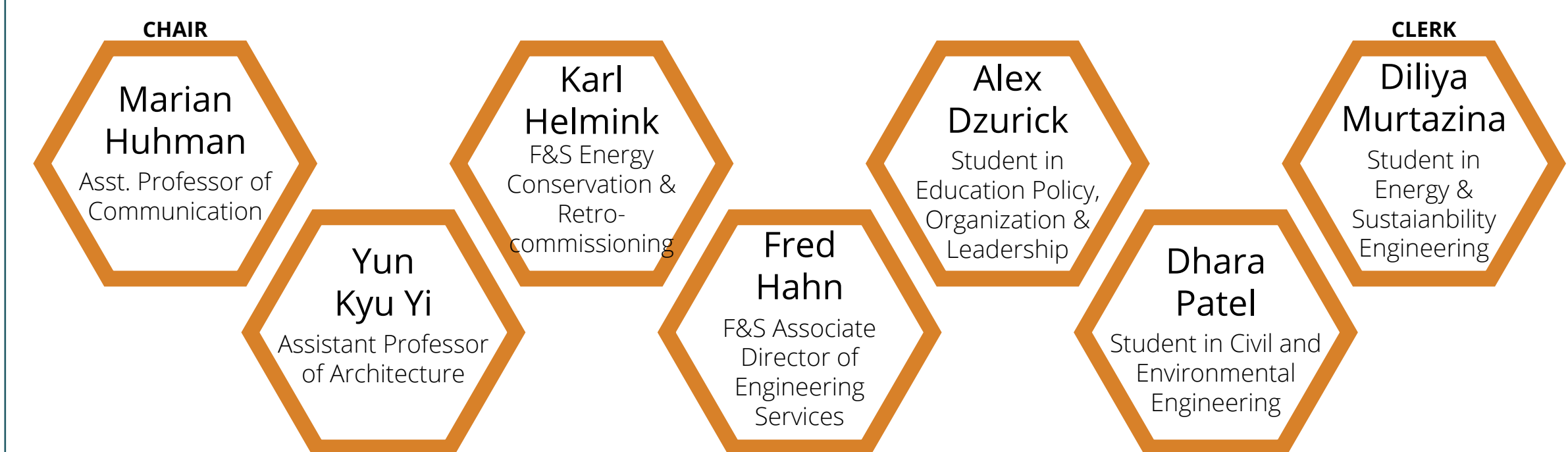


Status: In Progress

- Several initiatives underway focusing on student engagement — including Illini Lights Out and Eco-Olympics.
- Initiatives are continuing for staff and faculty engagement — Certified Green Office Program, Energy Conservation Incentive Program (ECIP).
- Forming a plan to work toward a Green Labs program that would focus on reducing energy consumption in labs (e.g. fume hoods, refrigeration).



## TEAM MEMBERS



## ACKNOWLEDGEMENTS

Jessica Tran, SWATeam consultation group community member 2015-2016  
 Paul Foote, Eco-Olympics Coordinator  
 Students: Natalie Pelekh (intern), Morgan Kaplan (intern), Sam Wilson (RA), and Olivia Yu, special project.