

Climate Leadership Commitments and the iCAP

Ms. Morgan B. White,
Associate Director, Sustainability, at Facilities & Services (F&S)
F&S Liaison to the Institute for Sustainability, Energy, and Environment
University of Illinois at Urbana-Champaign
October 11, 2017

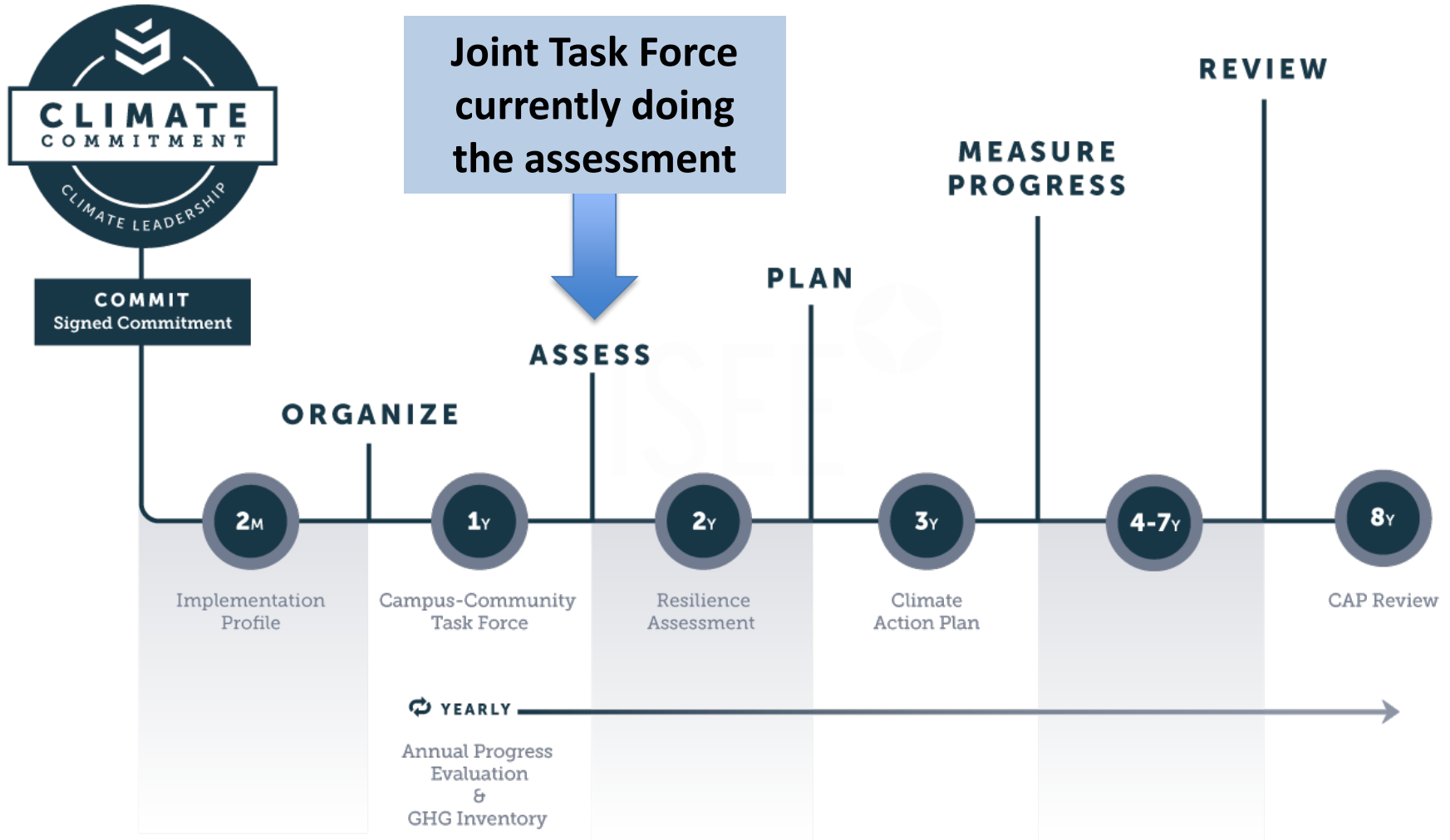


INSTITUTE FOR SUSTAINABILITY, ENERGY, AND ENVIRONMENT

CHANCELLOR SIGNED CLIMATE LEADERSHIP COMMITMENTS



Resilience Commitment



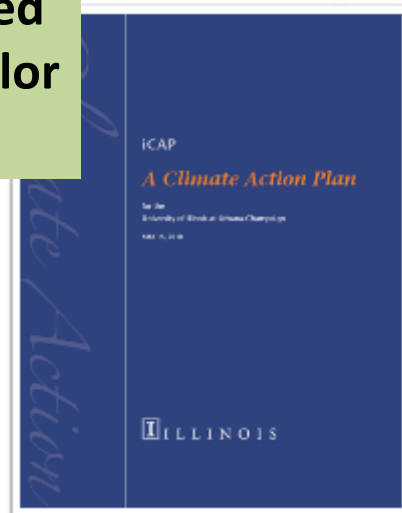
Carbon Commitment

**Signed by Chancellor
Herman in 2008**



AMERICAN COLLEGE & UNIVERSITY
PRESIDENTS' CLIMATE COMMITMENT

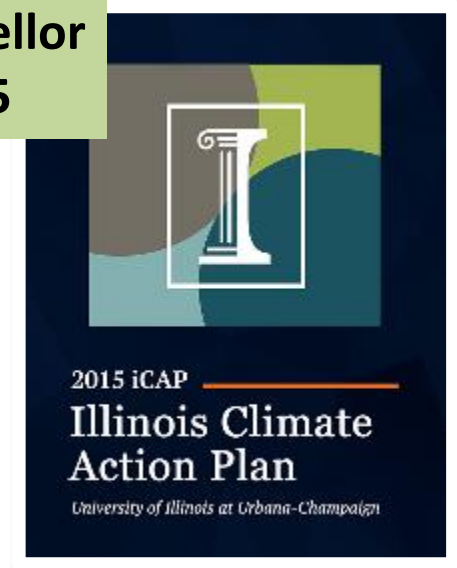
**2010 iCAP approved
by Interim Chancellor
Easter in 2010**



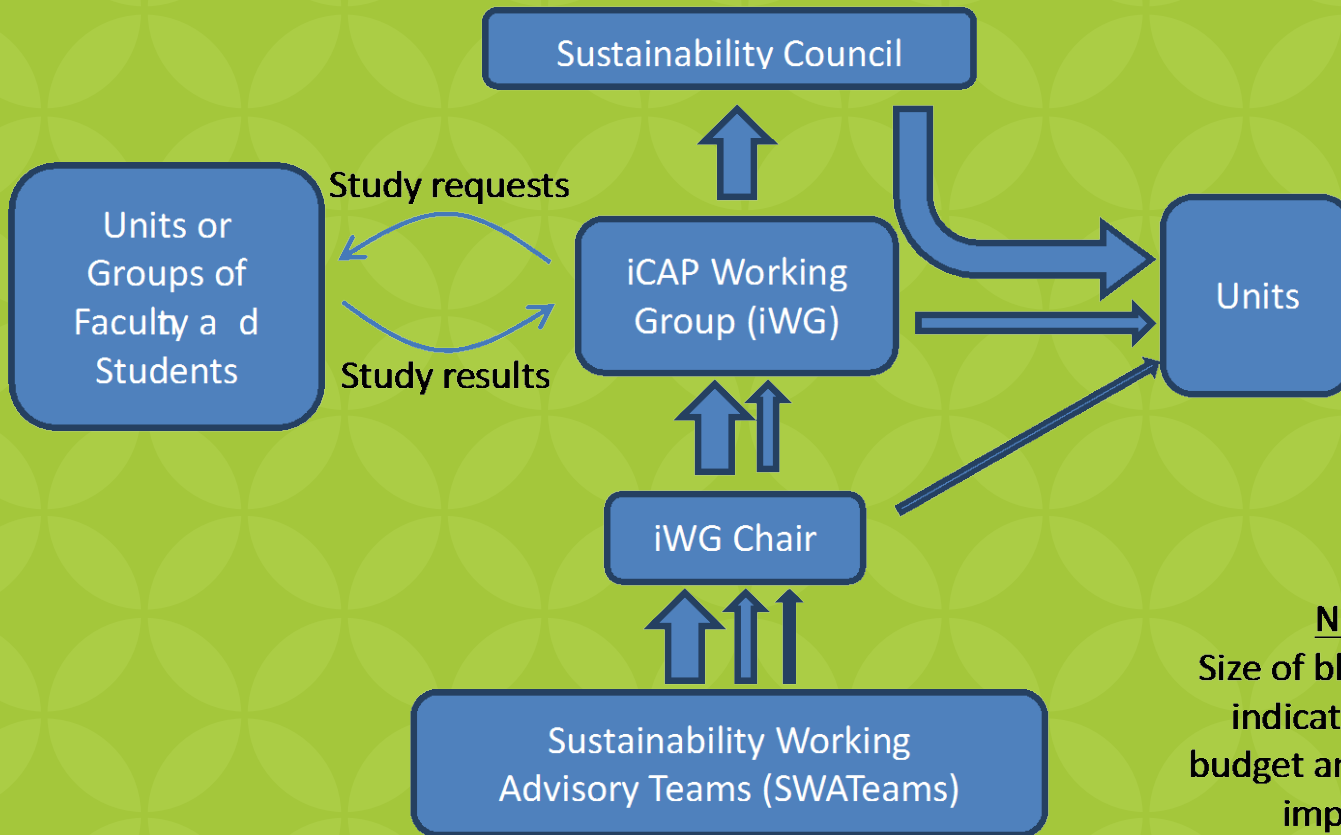
**2015 iCAP objectives
are in progress**



**2015 iCAP approved
by Interim Chancellor
Wilson in 2015**



Campus Sustainability Procedures



Note:
Size of block arrows
indicates size of
budget and/or policy
impact of
recommendations



Sustainability Working / Advisory Teams (SWATeams)



Energy Conservation &
Building Standards



Energy Generation,
Purchasing, & Distribution



Transportation



Purchasing, Waste, &
Recycling



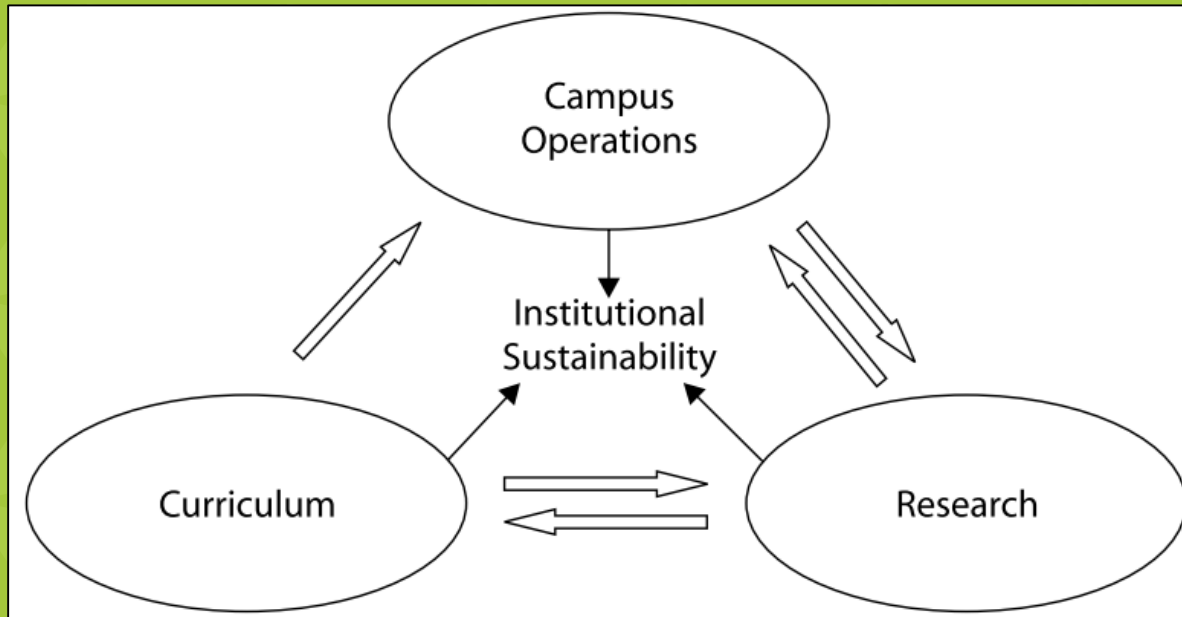
Water and Stormwater



Agriculture, Land Use, Food,
and Sequestration



SEVERAL PROJECTS ALREADY DISCUSSED





Thank you to our first set of speakers:

Mark Taylor, Kevin O'Brien, Yu-Feng Lin, Phil Krein, Yun Kyu Yi, and Ravishankar Iyer



ENERGY MANAGEMENT CONTROL CENTER

Integrated data and control systems deliver improved demand and consumption forecasting. The display of building energy systems helps

... triage
... ch
... ively.

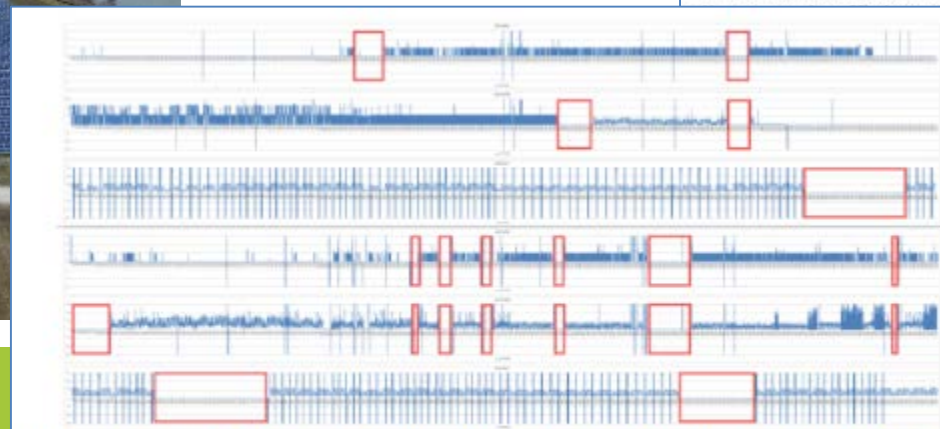
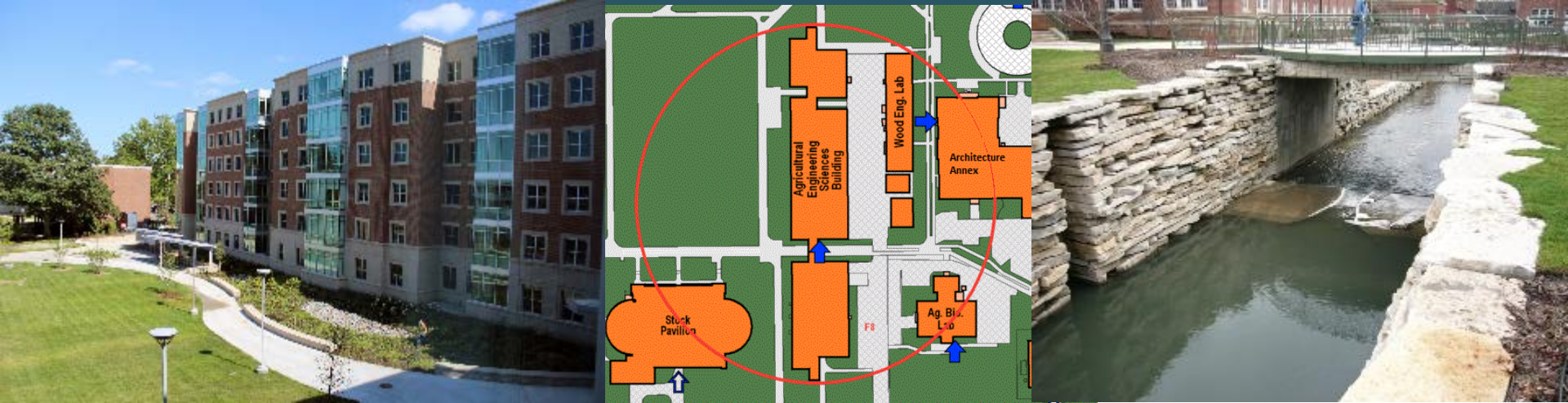
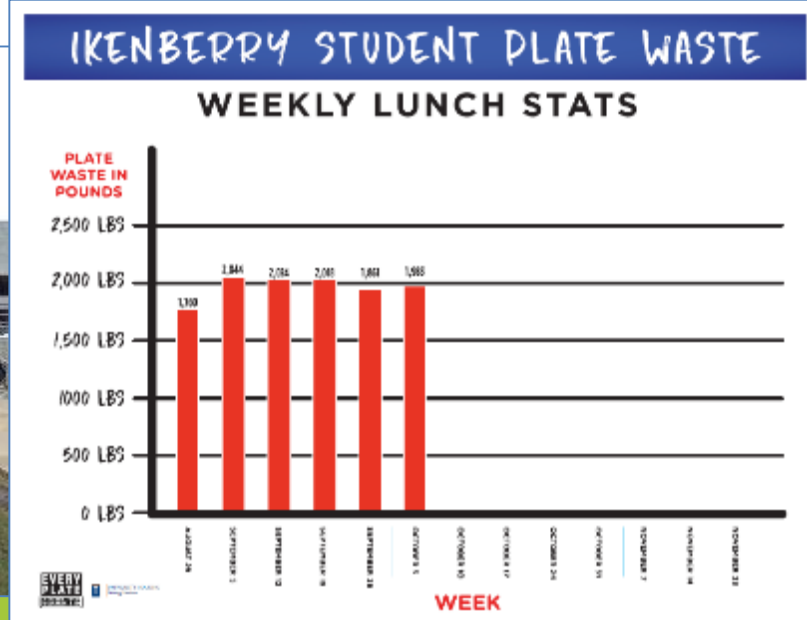


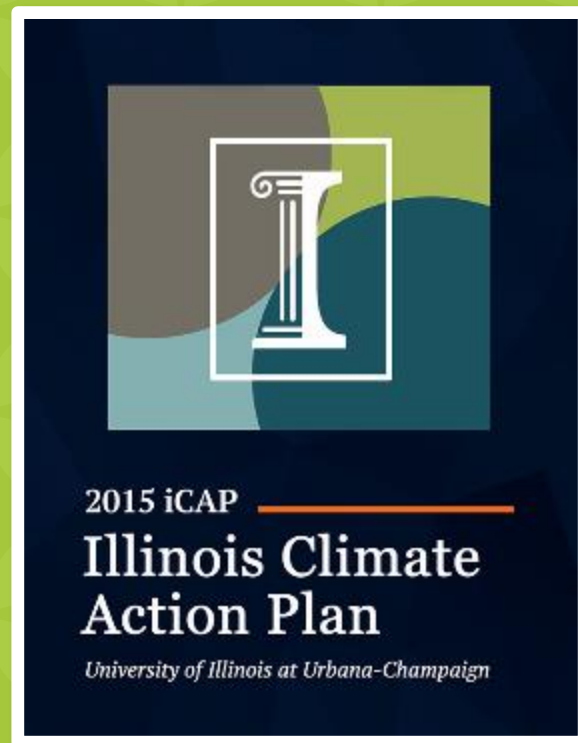
Figure 1. Plot of real-time meter data (Enclosed in red boxes are abnormal patterns of the collected data for steam, chiller, and electricity readings from Nov. 2014-2016 in 15min intervals. Source: F&S)



Thank you to our second set of speakers:
 Erica Myers, Xinlei Wang, Thomas Over with Eleanor Blackmon, Wen-Tso Liu,
 Sarah Taylor Lovell, Michelle Wander, and Brenna Ellison

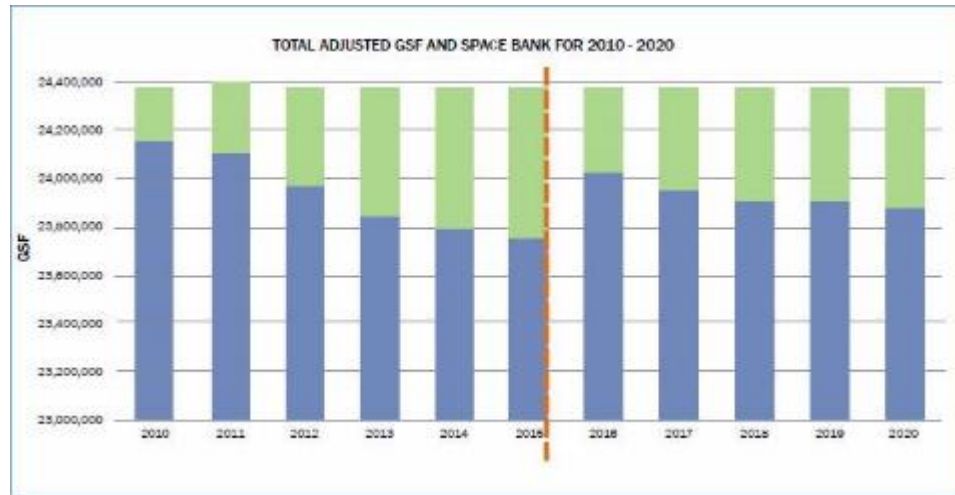


SEVERAL PROJECTS UNDERWAY



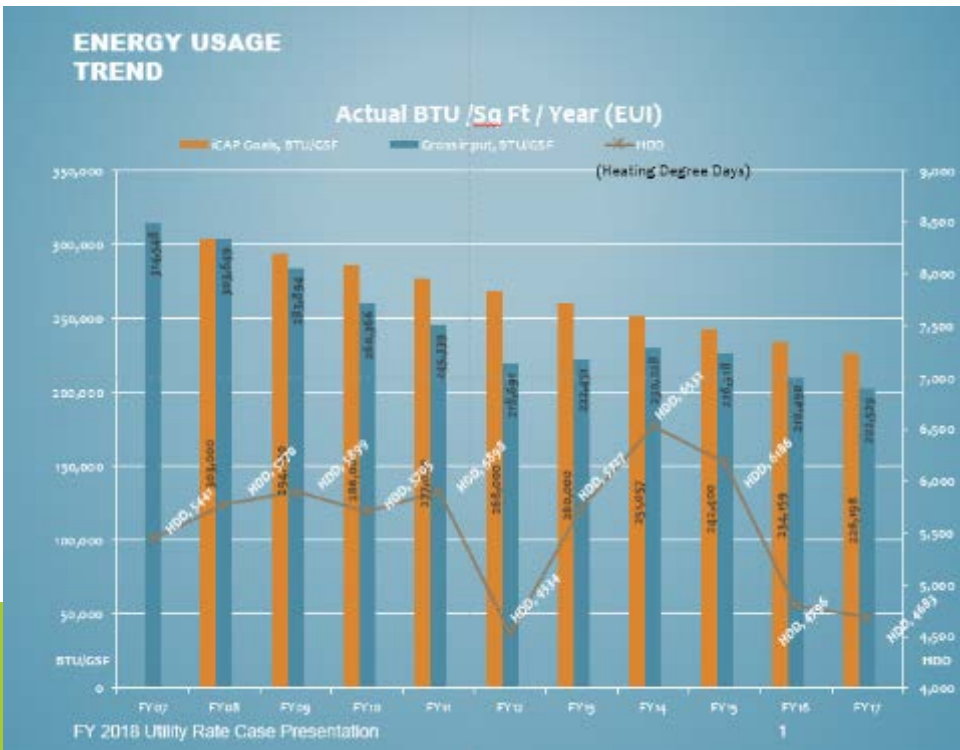
Energy Conservation and Building Standards objectives:

1. Net Zero Space Growth Policy
2. Highest Energy Performance Construction Performance Standards
3. 30% reduction in total Energy/GSF
4. Energy Conservation Incentive Program (ECIP), Eco-Olympics, and similar conservation behavior change campaigns.



ECIP LINCOLN HALL BUILDING-LEVEL ENERGY USAGE REPORT

GRADE GREAT JOB!



NOTABLE ENERGY EVENTS:

- FY08: Baseline Energy Use = 75,742 MBTU/GSF
- FY09: T-12 to T-8 Lighting Retrofit
- FY11-12: LEED Platinum Renovation
- FY13: Construction Complete, New Baseline = 223,856 MBTU/GSF
- FY14: Retrocommissioning
- FY15: ECIP Winner, Advancement Category
- FY16: Blind Lights Out Pilot
- FY16: Brown Award Certified Green Office Award

ANNUAL ENERGY USE INTENSITY (MBTU/GSF)

ENERGY REDUCTION TO DATE: 64% (FY13 Baseline)

CUT DOWN ON ELECTRICITY USAGE BETWEEN 2PM AND 6PM.

BEAT THE PEAK

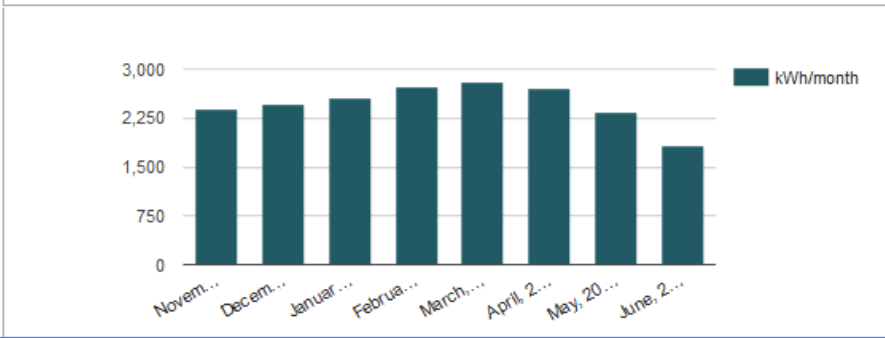
go.fs.illinois.edu/energyalert

ECIP ENERGY CONSERVATION INCENTIVE PROGRAM

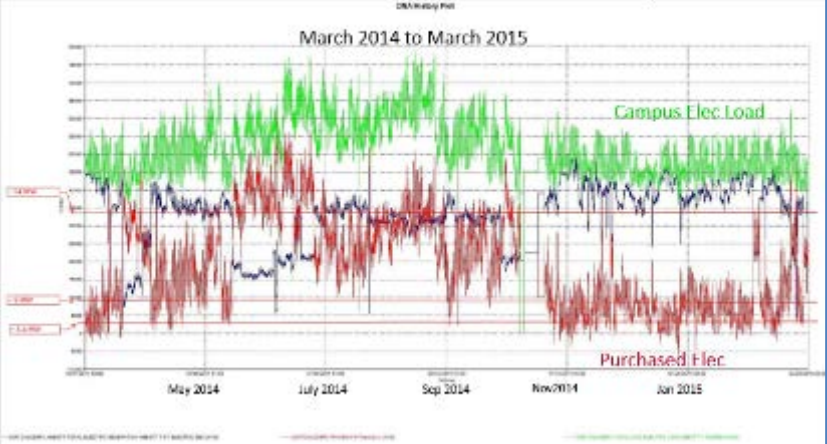
Energy Generation, Purchasing, and Distribution objectives:

1. The SWATeam will lead an exploration of options for 100% clean campus energy.
2. Expand on-campus solar energy production, with at least 25,000 MWh/year by FY25.
3. Expand the purchase of low-carbon energy. By FY20, obtain at least 120,000 MWh.
4. Offset all emissions from the supercomputing facility by FY18.

Wind Power Purchased by Month (kWh) (Tracked by Month)

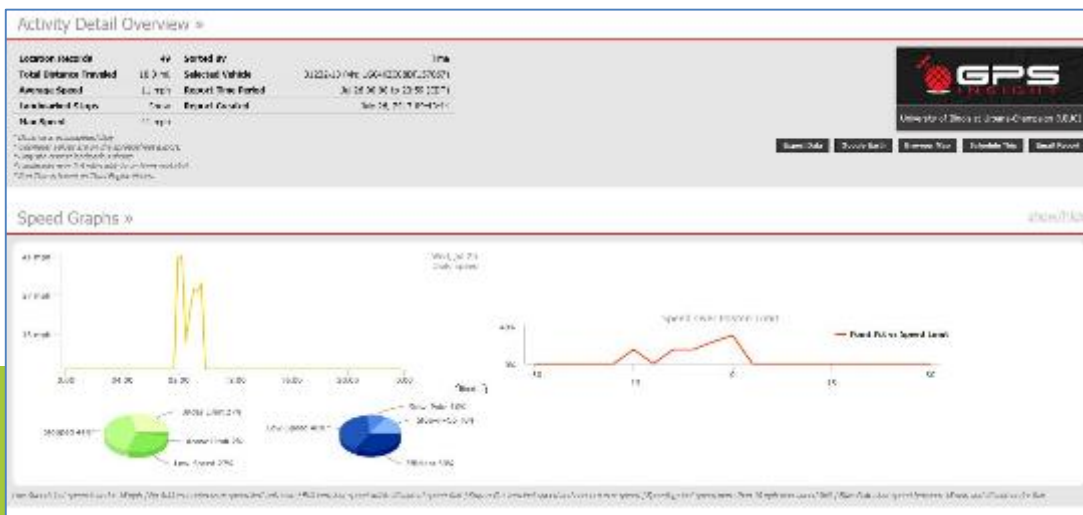
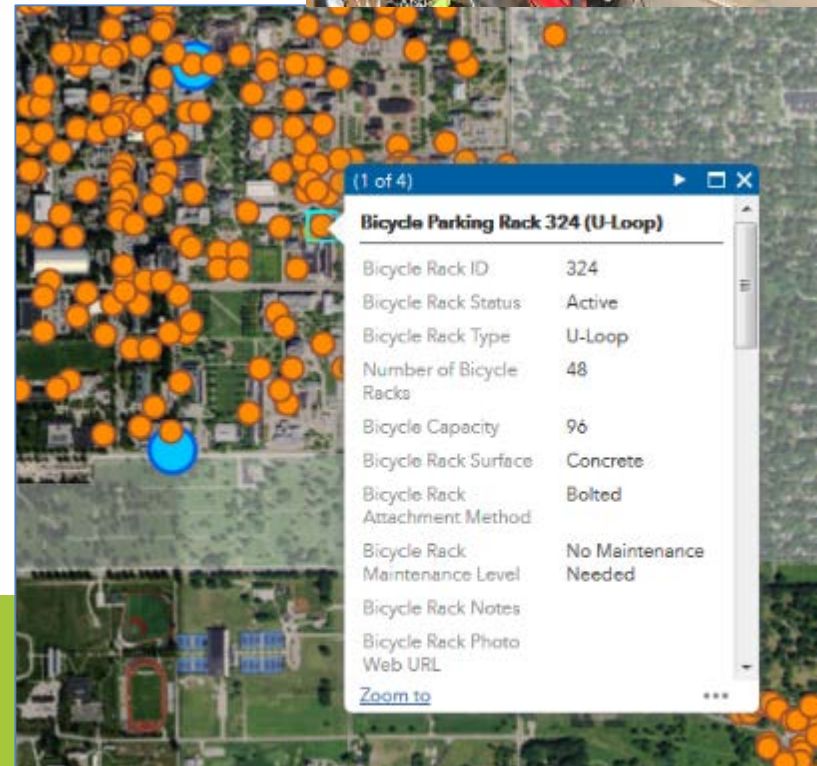


UIUC Annual Electric Load/Generation/Purchase



Transportation Objectives:

1. Reduce air travel emissions by 25% by FY20, most likely with carbon offsets.
2. Reduce emissions from the campus fleet by 20% by FY20.
3. Develop scenarios for conversion of the campus fleet to renewable fuels.
4. Reduce the percentage of staff trips made using single-occupancy-vehicles from 65% to 55% by FY20.
5. Implement the 2014 Campus Bike Plan on the schedule noted in that plan.
6. Appropriately staff sustainable transportation efforts.



Water and Stormwater Objectives:

1. Publicize more granular water use data.
2. Improve the water efficiency of cooling towers and chiller plants.
3. Perform a water audit to establish water conservation targets.
4. Inventory and benchmark campus' existing landscape performance [for stormwater].
5. Implement 4 pilot projects to showcase the potential of water reuse.
6. Investigate ways to reduce stormwater pollutant discharges by FY18.



...areas (Boneyard Creek is represented by the dashed blue line).



SATURDAY APRIL 23, 2016, AT SCOTT PARK

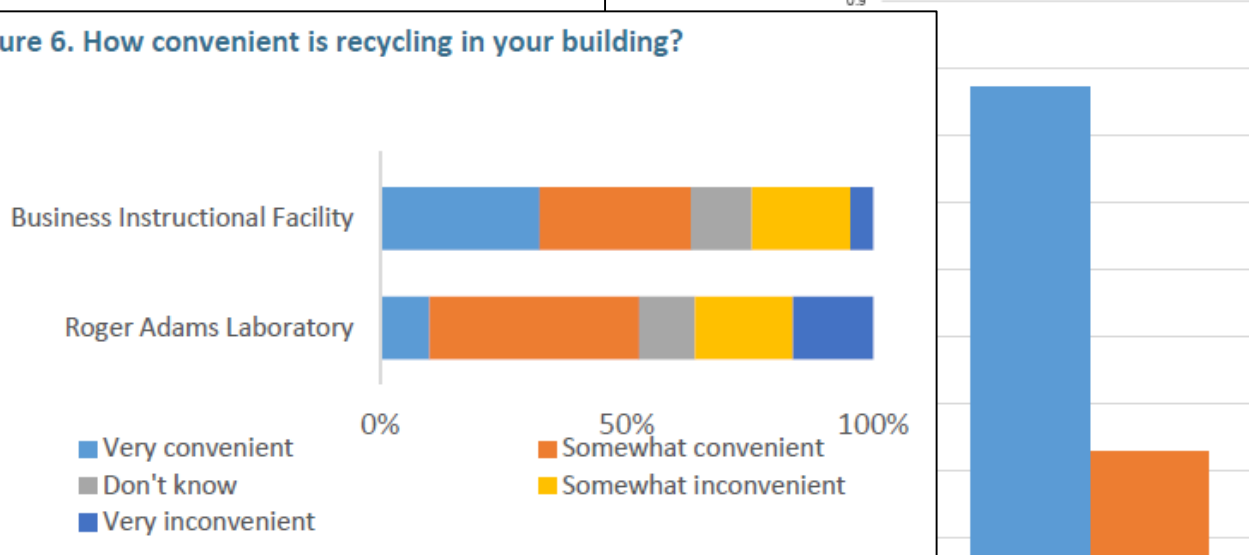


Purchasing, Waste, and Recycling Objectives:

1. Apply environmental standards to purchases of office paper, cleaning products, electronics, and shipping services.
2. Increase the diversion rate of MSW to 45% by FY20.
3. Utilize landfills with methane capture.
4. Appropriately staff Zero Waste efforts.



Figure 6. How convenient is recycling in your building?



	FY15
Average of NOT RECYCLED PERCENT	0.772267829
Average of RECYCLED PERCENT	0.227732171

Agriculture, Land Use, Food, and Sequestration Objectives (part 1):

1. Calculate GHG emissions from agricultural operations, and develop a plan to reduce them.
2. Design and maintain campus landscapes in a more sustainable manner; expand the specification of sustainable plantings in campus landscaping standards, develop a tree care plan by FY16 and an integrated pest management program by FY17.



Low Mow Zone

Pollinator Pocket • Supports Campus Sustainability
Decreases Maintenance Costs

fs.illinois.edu • 217-333-0340  Facilities & Services



April 2012

Greenhouse-grown seedlings were planted April 22, 2012, in a patch of mulched bare soil.



June 2012

After 2 months of growth, the seedlings were about six inches high and were spreading out.



July 2012

Thanks to watering during the drought, most plants thrived and some species bloomed in July.



After 4 (grass form it



October 2012

Showy goldenrod (yellow), aromatic aster (purple) and Heath aster (white) bloomed in early October



October 2012

Hundreds of insect species used the patch for collecting pollen and nectar or feeding on leaves and stems (see below).



November 2012

The prairie went to seed and entered dormancy in the fall. It was then mowed.

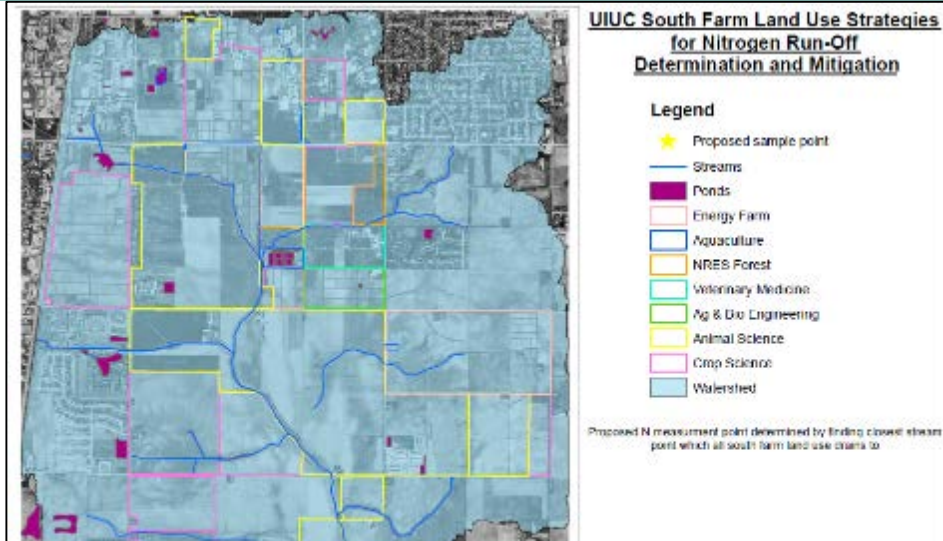


February 2013

Large underground rhizomes, which sequester carbon, live through the winter and will sprout in the spring.

Agriculture, Land Use, Food, and Sequestration Objectives (part 2):

3. Incorporate sustainability principles more fully into the Campus Master Plan.
4. Increasing local food procurement to 40% by FY25.
5. Increase carbon sequestration in campus soils by identifying locations for additional plantings, converting at least 50 acres to agroforestry by FY20.
6. Reduce nitrates in agricultural runoff and subsurface drainage by 50% from the FY15 baseline by FY22.



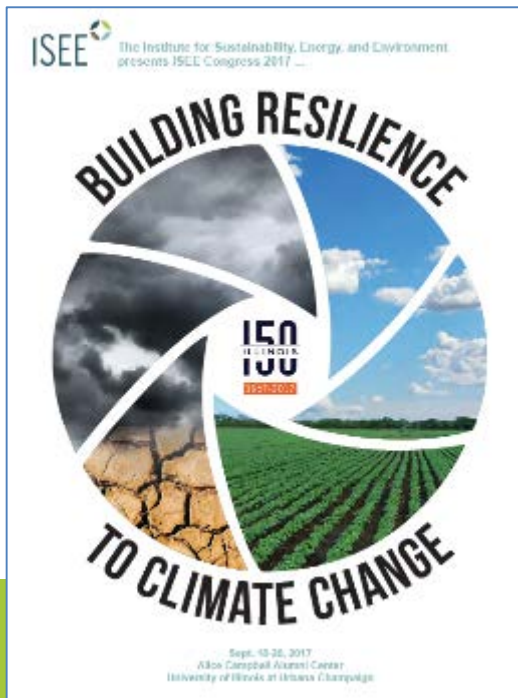
- Carbon Credits/Offsets
- Funding Solutions
- Education – Classes
- Outreach – Events
- Research Hub



Facilities & Services
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Revolving Loan Fund Project Application

1. Full name of person submitting this form: _____
2. Full Name of department contact: _____
3. Email address: _____
4. Department requesting the project: _____
5. Associated building name: _____
6. Description of the utility savings measure: _____



ENERGY RESEARCH AREAS OF EXCELLENCE



PRODUCTION / HARVESTING

- Fossil Fuels: Coal, Oil, Gas
- Biofuels
- Renewables: Wind, Solar
- Nuclear



DELIVERY

- Pipeline
- Rail
- Tankers
- Grid



STORAGE

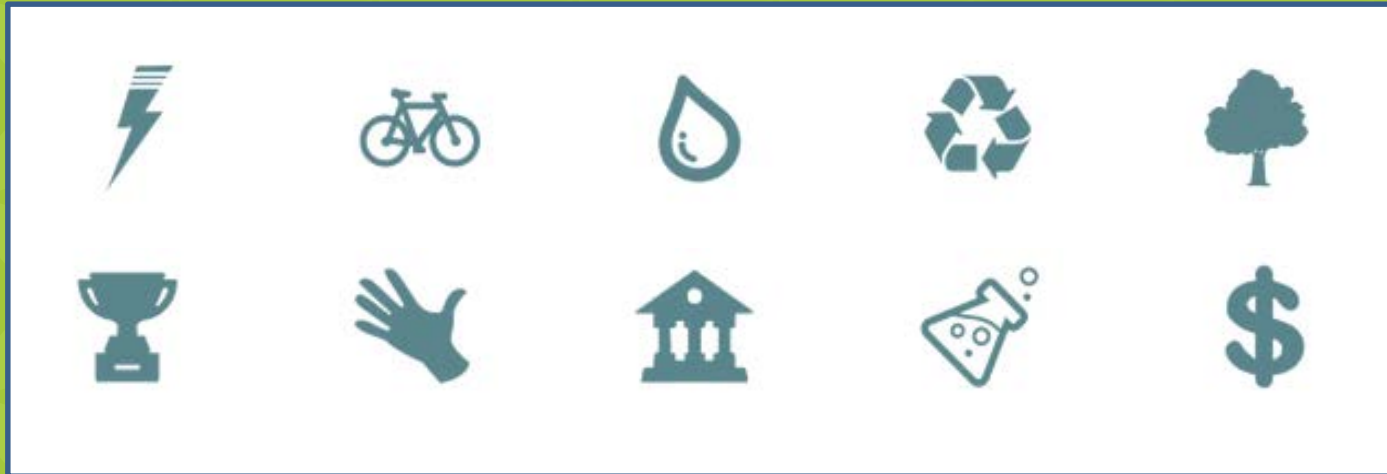
- Batteries
- Flywheels
- Compressed Air
- Molten Salt



DEMAND / CONVERSION

- Motors
- Engines: IC
- Transport
- Residential / Commercial / Industrial

KEEPING TRACK ON THE ICAP PORTAL





Home

Goals

Projects

Map

Suggestions



Welcome

Sustainability is: Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

The Illinois Climate Action Plan (iCAP) outlines a path for the University of Illinois at Urbana-Champaign to achieve carbon neutrality as soon as possible, and no later than 2050. The campus [committed to this ambitious goal](#) when in 2008 it signed the [American College and University Presidents' Climate Commitment \(ACUPCC\)](#) – later to be renamed the Second Nature Carbon Commitment for its emphasis on emissions.

In 2016, Illinois took on an even greater leadership role when Interim Chancellor Barbara Wilson signed its sister pledge, the [Second Nature Resilience Commitment](#), which charges campus to examine the vulnerabilities of its landscapes and infrastructure in the face of an already changed climate. Together, these two commitments form Second Nature's comprehensive Climate Commitment. As a charter signatory of the Climate Commitment, Illinois continues its dedication to being on the forefront of sustainable future planning.



FEATURED UPDATES

[Video about bees and solar farms](#) 10/5/2017
[Solar Farm](#), [Support Pollinators](#)

Here's a neat idea for campus to consider, as we continue to look at options for ground cover under solar panels.

[Weekly Update](#) 10/2/2017
[Campus Bike Center](#), [Light the Night](#)

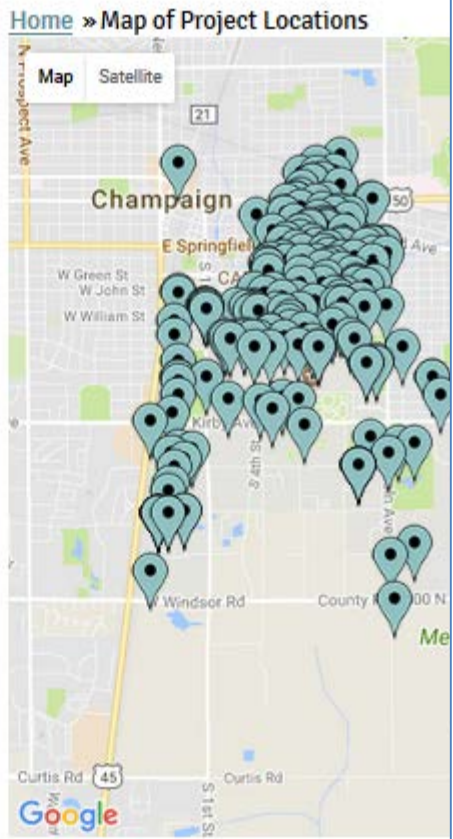
All, the major news of last week was the Light The Night event. We installed roughly 870 light sets this year! We completely sold out, which is a first for me in the 4 or so years in which I've been involved with this event.

[Transportation SWATeam Meeting](#)
 9/29/2017

Theme Filter

Select the theme(s) you'd like to filter by:

- Education
- Energy
- Funding
- Land & Space
- Outreach
- Procurement & Waste
- Reporting Progress
- Research
- Transportation
- Water



718

PROJECTS
in the iCAP Portal

PROJECT UPDATES
showing project histories

1,946

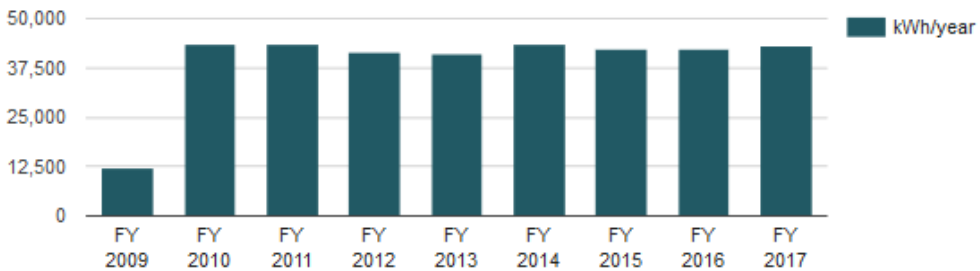
77

METRICS
demonstrating progress toward
iCAP Portal objectives

240

PLACES
across the U of I campus

BIF Solar Generation (Tracked by Fiscal Year)





Search



Suggestions



[Home](#) » [Projects](#) » Theme: Land & Space

Land & Space

The University has enacted a “no net increase in space” policy for the entire campus, applicable to all space controlled by campus including auxiliary units and rental space. The University will develop and implement a sustainable landscape plan devoted to planning for and implementing sustainable landscapes and landscape maintenance practices.

Several Land & Space projects are tracked and advocated for by the [Agriculture, Land Use, Food, and Sequestration \(ALUFS\) SWATeam](#).

[Expand all](#) | [Collapse all](#)

- [Responsible Stewardship of Campus Land](#) In Progress
 - [Carbon Sequestration](#) Proposed
 - [Incorporate Sustainability Principles into Campus Master Plan](#) In Progress
 - [Roof to Roof Program](#) In Progress
- [Sustainable Agricultural Practices](#) In Progress
 - [Assess and Reduce Agricultural GHG Emissions](#) Proposed
 - [Bevier CafeHerb Garden](#) In Progress
 - [Fly Ash Phosphorous Filtration](#) In Progress
 - [Growing Local Foods](#) In Progress
 - [Sustainable Agricultural Food System](#) In Progress

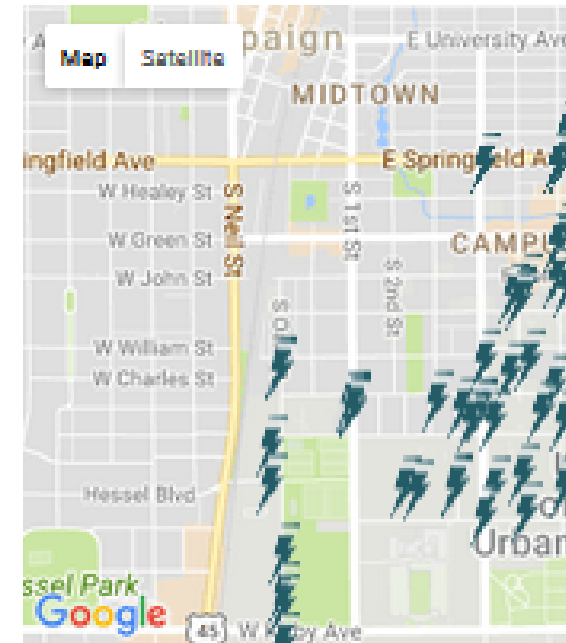
Map of Land & Space-themed Projects



[Expand all](#) | [Collapse all](#)

- [Reduce Emissions from Energy Consumption](#) In Progress
- [Energy Conservation Efforts](#) In Progress
 - [Changing Usage of Individuals](#) In Progress
 - [Convert Fume Hoods from CAV to VAV](#) In Progress
 - [Maintenance Division Energy Conservation Projects](#) In Progress
 - [Reduce Active Fume Hoods](#) In Progress
 - [Lighting Conservation Projects](#) In Progress
 - [Energy Services Conservation Projects](#) In Progress
 - [ECE Net-Zero Energy Building](#) In Progress
 - [Computers and Technology](#) In Progress
- [Carbon-Neutral Energy for Campus](#) Proposed
 - [Utilities Master Plan for Energy Production and Distribution](#) Completed
- [Use Renewable / Low-carbon / Clean Energy](#) In Progress
 - [Solar Energy on Campus](#) In Progress
 - [ECE Rooftop Solar PVs](#) In Progress
 - [Install Solar PVs on NCPD](#) In Progress
 - [Solar Farm](#) Completed
 - [Rooftop Solar Potential](#) In Progress
 - [BIF Rooftop Solar PVs](#) Completed
 - [Ground Mounted Solar PVs BRC Research Test Bed](#) Completed
 - [Idea Garden Solar PVs](#) Proposed
 - [KCPA Rooftop Solar Feasibility Study](#) Completed
 - [Solar Panels on Everitt Lab](#) Cancelled
 - [Solar PVs on Fruit Farm Admin Building](#) Cancelled

Map of Energy-themed P

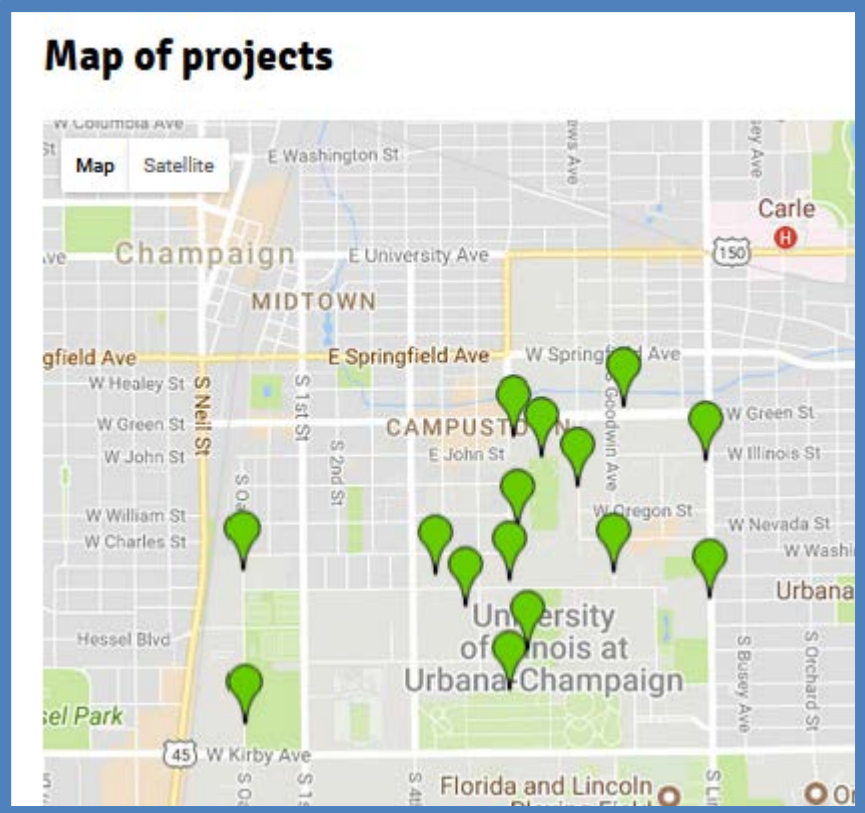


Bicycle Related Projects

Below this project collection listing is a [map showing the projects which have a location](#). Please scroll to the bottom to see it.

Project Listing

THEME	PROJECT	STATUS	DESCRIPTION
Transportation	2009 Bicycle Master Plan	Completed	The 2009 Campus Bike Plan was started as a student project, and completed by Transportation Demand Management Coordinator, Morgan Johnston. This document was used to prioritize street improvements for bicyclists, and it was a contributing factor in reaching Bicycle Friendly University - bronze level status.
Transportation	2014 Campus Bike Plan	Completed	The University of Illinois at Urbana-Champaign has completed and approved the 2014 Campus Bike Plan, a master plan to direct our efforts for future bicycle infrastructure improvements and program development. The University should im
Transportation	Bicycle Counts	In Progress	To better understand to better track the im University to know es school year.
Transportation	Bicycle Parking & Storage	In Progress	The university current upgrade some of this bike parking to prote storage of bikes durin
Transportation	Bicycle Registration	In Progress	Bicycle registration i are recovered by Pub faculty, staff, and stu at http://qo.illinois.e
			In order to help ensu following the rules o outside contract



Campus Bike Center

In Progress

PROJECT HISTORY

Weekly Update

10/2/2017

All, the major news of last week was the Light The Night event. We installed roughly 870 light sets this year! We completely sold out, which is a first for me in the 4 or so years in which I've been involved with this event.

Weekly Update

9/25/2017

All, The big event for last week was an unruly member who I had to kick out of the shop on Wednesday. Other than that, the week went smoothly.

[View all project progress »](#)

PROJECT FAMILY

- [Bicycle Education](#)
 - [Bicycle Safety Classes](#)
 - [Bicycle Safety Materials](#)
- [Campus Bike Center](#)
 - [Mechanics Classes at the Campus Bike Center](#)
- [Light the Night](#)
- [Integrate Bicycles into Course Curriculum](#)

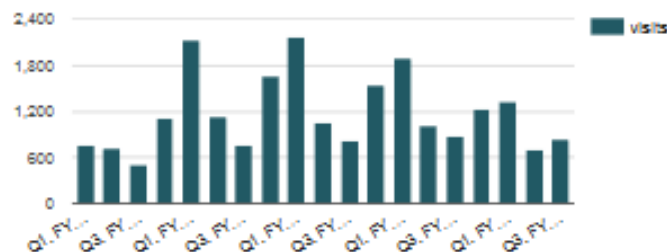
Description

The Campus Bicycle Center — a collaboration between the University of Illinois and The Bike Project of Urbana-Champaign — is dedicated to empowering individuals with knowledge about how to repair and maintain bicycles and encouraging mode-shift away from single-occupancy vehicles. This... [View full description »](#)

Website URL(s)

- [The Bike Project of Urbana-Champaign](#)
- [FGS Campus Bike Center website](#)

Campus Bike Center Total Visits (Tracked by Quarters of Fiscal Year)



Annotations

- **Q3, FY2017: Q3, 2017**

[View details for Campus Bike Center Total Visits \(Tracked by Quarters of Fiscal Year\)](#)

Memberships Sold (Tracked by Quarters of Fiscal Year)



PROJECT TEAM

Project Leader:

Jake Benjamin

DATES

Proposed November 1, 2008
Proposed by Multi-Modal Study

Started March 15, 2010
Started by Morgan Johnston

THEMES

Primary Theme:

[Transportation](#)

Other Themes:

- [Education](#)

Project Location(s)

Projects Updates for Tree Campus USA

1 2 [next >](#) [last »](#)



CAMPUS TREE INVENTORY RECOMMENDATION - APPROVED

Posted by [Morqan White](#) on July 18, 2017

Associated Project(s): [Agriculture, Land Use, Food, and Sequestration \(ALUFS\) SWATeam](#) [iCAP Working Group \(iWG\)](#) [Campus Tree Inventory](#)
[Tree Campus USA](#)

The ALUFS SWATeam recommended that F&S complete an update to the campus tree inventory. This recommendation was supported by the iCAP Working Group, a Campus Tree Advisory Committee. During spring 2017, Director of iSEE Evan DeLucia and Interim Executive Director of F&S Helen Coleman both approved using C Credit Sales funding to complete the inventory. Campus Landscape Architect Brent Lewis will be responsible for initiating the inventory and working with Superintendent of Grounds Ryan Welch to oversee the progress.

Attached Files:

-  [ALUFS002_Submitted_Campus-Tree-Inventory.docx](#)
-  [ALUFS002_Assessment_Campus-Tree-Inventory.docx](#)







ARBOR DAY CELEBRATION - RAIN AND SHINE

Posted by [Morqan White](#) on April 30, 2017

Associated Project(s): [Tree Campus USA](#)

The Arbor Day Celebration was moved into the ACES Library, due to forecasted rain storms during the event. Photos from the event are attached here.

Attached Files:

-  [IMG_3748.JPG](#)
-  [IMG_3746.JPG](#)
-  [IMG_3721.JPG](#)
-  [IMG_3743.JPG](#)
-  [IMG_3725.JPG](#)
-  [IMG_3729.JPG](#)

Internet Tour Sites:

1. iCAP Portal Main Page:
<https://icap.sustainability.illinois.edu/>
2. Theme Pages, Energy example:
<http://icap.sustainability.illinois.edu/themes/energy>
3. Project Pages, Campus Bike Center example:
<http://icap.sustainability.illinois.edu/project/campus-bike-center>
4. Project History/Progress, Tree Campus USA example:
<http://icap.sustainability.illinois.edu/project-updates/1279>
5. Suggestions Page:
<http://icap.sustainability.illinois.edu/form/suggestions>

Suggestions

All iCAP projects originally started as someone's great idea. If you have an idea to share or know of an existing project not listed here, we want to know about it!!

Note: please be sure to review the [existing iCAP project pages](#) before suggesting a new project.

Your Information

Name

Affiliation

Email

Suggestion Details

Subject / Project Name

Type

- New Project
- Existing Project
- Other Suggestion

Description


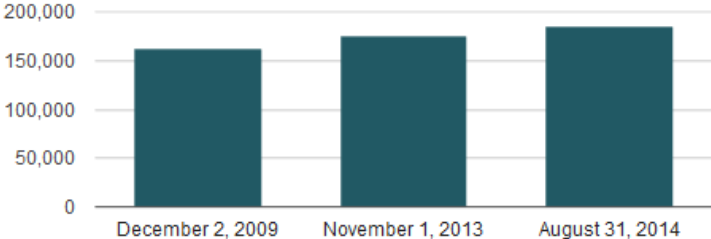



Pros / Cons

Objectives Dashboard

View the projects and metrics associated with the Key Objective below

Expand all metrics

COMING SOON

THEME	OBJECTIVE	METRIC	PROJECT
	2.1: Net zero space growth	<p>Business Instructional Facility (Tracked by Fiscal Year)</p> <p>▼ Square Footage LEED Platinum Certification (Tracked by Day)</p>  <p>Annotations</p> <ul style="list-style-type: none"> • December 2, 2009: Business Instructional Facility • November 1, 2013: Lincoln Hall • August 31, 2014: Bousfield Hall <p>View details for metric: Square Footage LEED Platinum Certification (Tracked by Day)</p>	<p>Maintain or Reduce Gross Square Footage In Progress</p>
	2.2: Implement energy standards		<p>Implement Energy Standards Proposed</p>
	2.4 Energy Use Behavior Change	<p>► ECIP pledges by year (Tracked by Fiscal Year)</p>	<p>Changing Usage of Individuals In Progress</p>
	3.1: Explore Options for 100% clean energy	<p>No metric specified for this objective</p>	<p>Explore Options for 100 Percent Clean Campus Energy In Progress</p>

THANK YOU.

ANY QUESTIONS?

