

Campus Sustainability and Net Zero Space Growth

University of Illinois at Urbana-Champaign
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Agenda

Campus Sustainability

- Climate Commitments / Illinois Climate Action Plan (iCAP)
- Sustainability Working Advisory Teams (SWATeams)
- iCAP goals and objectives for energy

Net Zero Space Growth

- Campus Administrative Manual Policy
- Incorporated in the 2017 Campus Master Plan update
- Example: Hydrosystems Laboratory

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Climate Commitments



The Climate Commitment

Integrates a goal of carbon neutrality with climate resilience and provides a systems approach to mitigating and adapting to a changing climate. Designed to blend these two critical components of climate leadership.

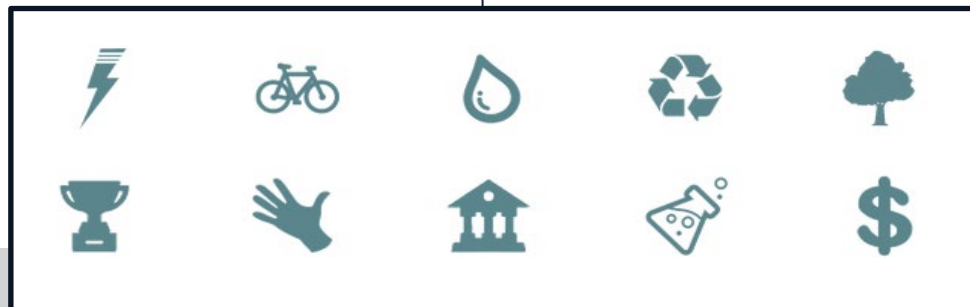
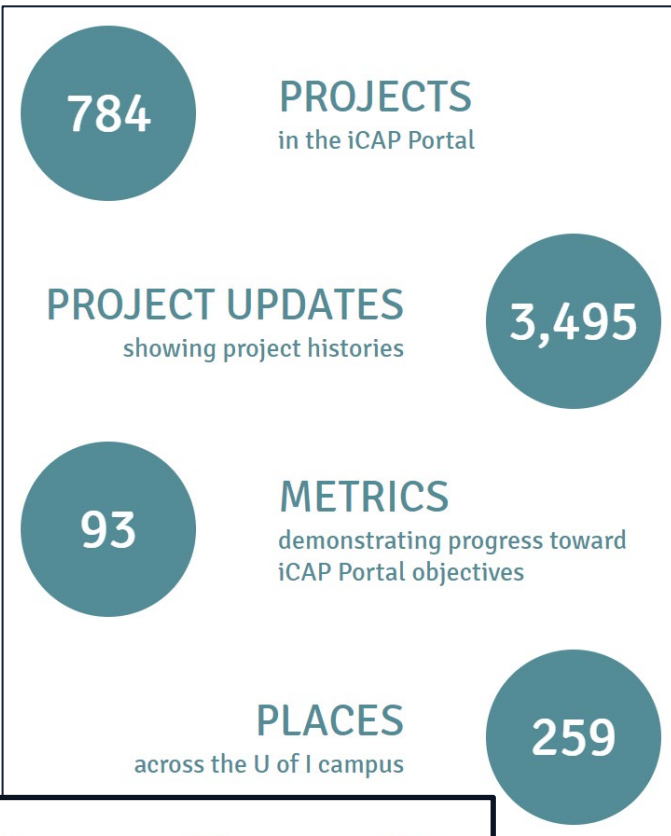
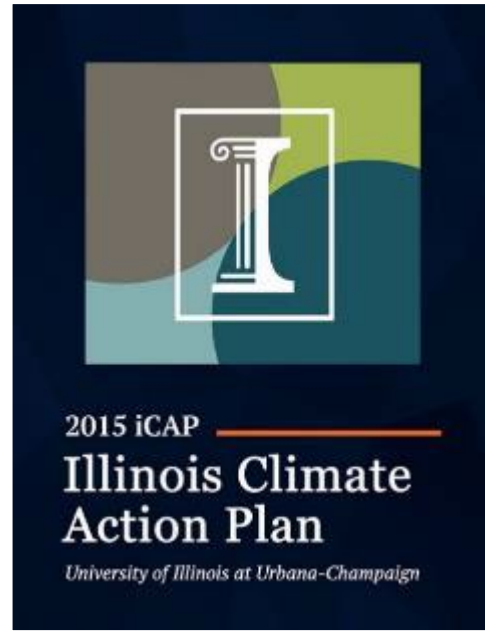


- **Signed by 500+ leading American higher education presidents and chancellors**
- **2008: U of I signed the Carbon Commitment, pledging to be carbon neutral no later than 2050**
- **2016: U of I signed the Resilience Commitment, creating a joint task force with local mayors to build resilience to ongoing climate change**



Illinois Climate Action Plan

- Strategic Plan for meeting the climate commitments
- Specific goals and objectives for several topics and themes
- Tracked publicly on the iCAP Portal online database
- Five-year iCAP update cycle; next in 2020



Sustainability Working Advisory Teams (SWATeams)



Energy Conservation &
Building Standards



Energy Generation,
Purchasing, &
Distribution



Transportation



Purchasing, Waste, &
Recycling

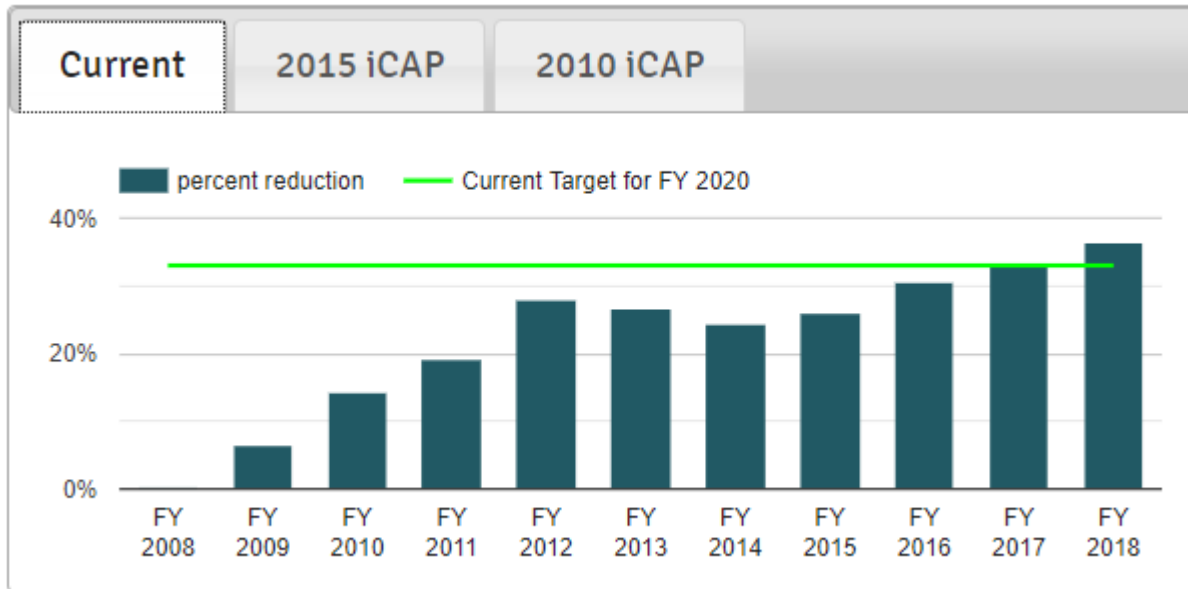


Water and Stormwater

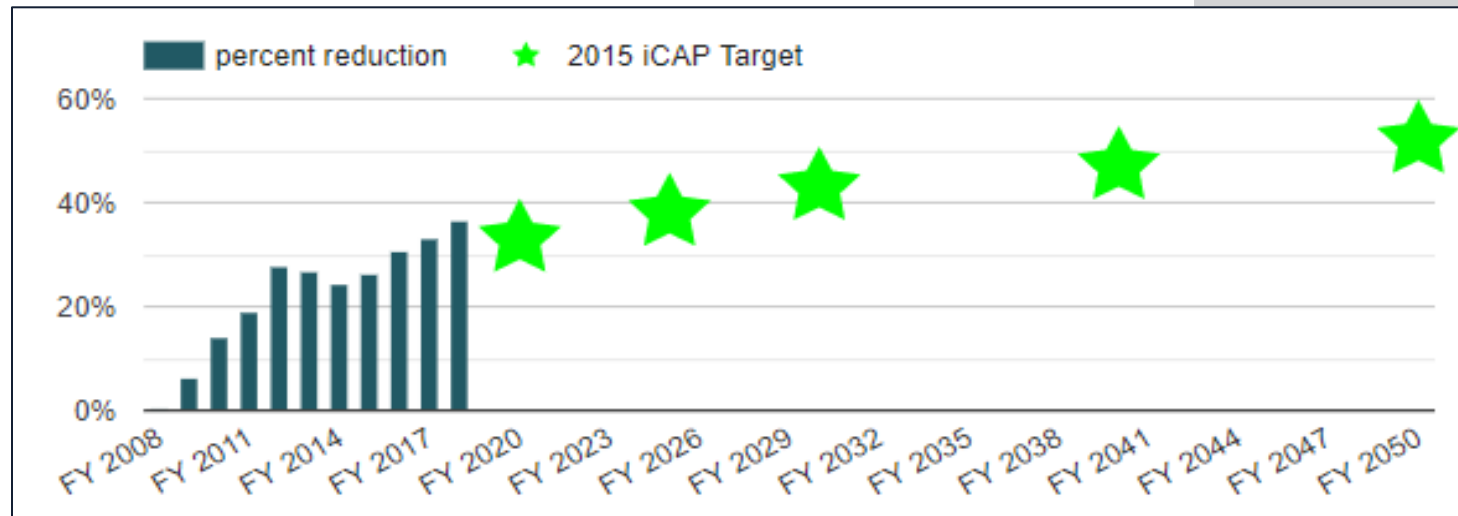


Agriculture, Land Use,
Food, and Sequestration

iCAP goals for energy



**36.5% reduction
from FY08 to FY18 in
Energy Use Intensity
=
Total energy inputs
/ Gross Square Feet**



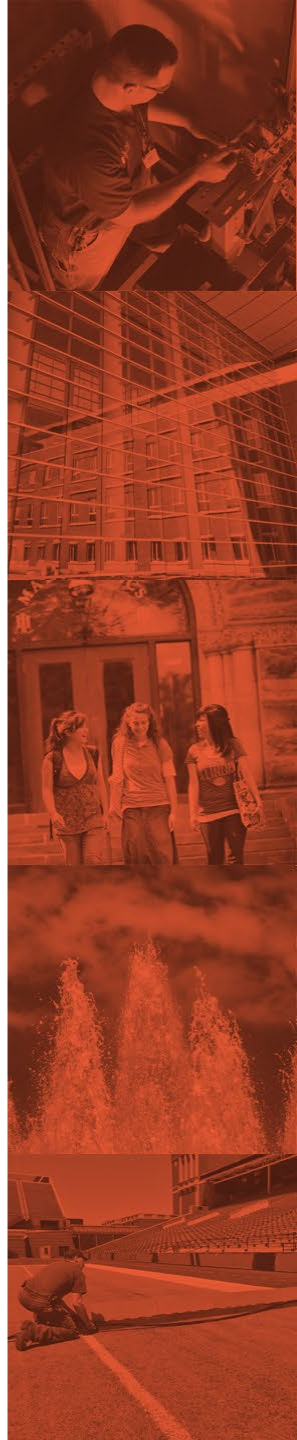
iCAP space goals

“The projected carbon emissions for a business-as-usual scenario show significant increases in emissions due to additional square footage. The University will pursue strategies that slow the amount of increased square footage by judiciously examining existing space.”

“The campus will implement a freeze on new buildings and building additions once current planned projects are completed. Any new space must take an existing space of equal or greater size (or of equal or greater energy usage) out of commission.”

“Finally, the campus space market will include the demolition of certain buildings with poor energy performance, high deferred maintenance burdens, and low historical value.”

iCAP objective #2.1 – “Maintain or reduce the campus gross square footage relative to the FY10 baseline.”



iCAP space and energy

- 2010 iCAP goal: reduction in **total energy use** of existing buildings
- Assumed no growth in campus GSF
- Energy Conservation is tracked using Energy Use Intensity (EUI), so...
→ Need to stop expanding GSF → Net Zero Space Growth Policy

**21% FY08 to FY14 in
Energy Use Intensity
=
17% reduction in Total
Energy Consumption**

Fiscal Year	Total Energy Delivered to Campus	% change in Campus Energy Use from FY08	Gross Square Feet GSF	Energy Use Intensity	% change in EUI from FY08
	MWh/year			MWh/year/GSF	
2008	1,299,520	n/a	20,113,569	0.065	n/a
2009	1,169,953	-10%	20,128,325	0.058	-10%
2010	1,093,500	-16%	20,389,897	0.054	-17%
2011	1,064,004	-18%	20,771,195	0.051	-21%
2012	988,614	-24%	20,918,296	0.047	-27%
2013	1,061,399	-18%	20,908,187	0.051	-21%
2014	1,076,722	-17%	21,003,246	0.051	-21%
2020	909,664	-30%	21,003,246	0.043	-33%
2025	760,469	-35%	21,003,246	0.036	-44%
2030	656,100	-40%	21,003,246	0.031	-52%
2040	585,202	-45%	21,003,246	0.028	-57%
2050	494,307	-50%	21,003,246	0.024	-64%

Net Zero Space Growth

- Campus Administrative Manual Policy
- Incorporated in the 2017 Campus Master Plan update
- Example: Hydrosystems Laboratory

Campus Admin. Manual (CAM) Policy

NET ZERO SPACE GROWTH

Purpose

To halt the growth in gross square footage of campus buildings; to support the goal of reducing the campus footprint over time through more efficient space utilization; to fulfill the commitment under the **2010 Illinois Climate Action Plan** to enact a “no net increase in space” policy and to reduce energy usage through conservation measures; to meet the pledge in the American College and University Presidents’ Climate Commitment in 2008 to reduce the campus’ greenhouse gas emissions to zero by 2050.

Scope

All renovations, additions, leases, or new building construction projects for all premises and facilities owned, leased, occupied or otherwise controlled by the University on behalf of the Urbana-Champaign campus.

Authority

Office of the Vice Chancellor for Academic Affairs and Provost.

Issued:

June 10, 2015

Revised:

June 10, 2015

Policy Number:



FO-44

Responsible Office:

Office of the Vice
Chancellor for Academic
Affairs and Provost

Policy Contact:

Office of the Vice
Chancellor for Academic
Affairs and Provost

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Master Plan Drivers

1. Reinforce the Campus Core

The quality of the academic environment

2. Discovery and Collaboration

The caliber, quantity, and connectivity of research programs, facilities and land

3. Access and Connectivity

Overcoming physical distance on campus

4. Student-Centered Campus

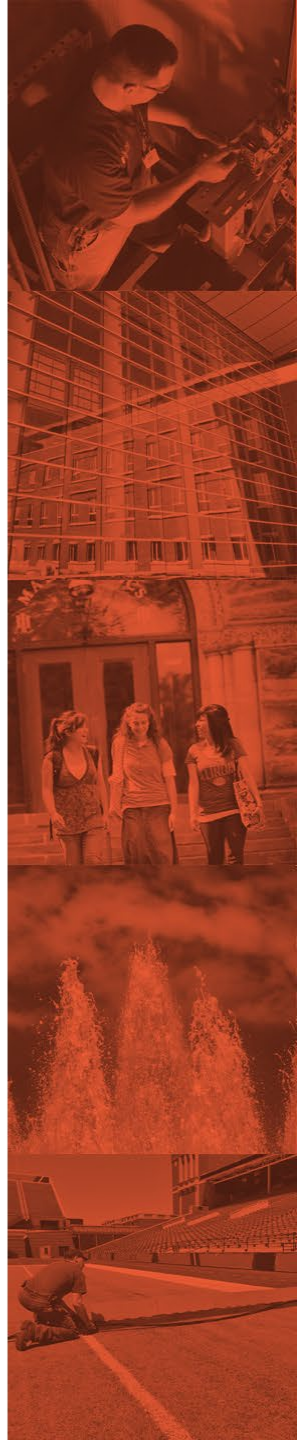
The quality of Student Life programs

5. Neighborhood Identity

The quality and physical organization of the campus environment

6. iCAP Goal - Net Zero Growth

Balancing campus growth and renewal in support of iCAP goals and fiscal responsibility



iCAP Goal - Net Zero Growth

Balancing Future Growth and Renewal with iCAP Goals

Reduce

Reduce Supply - **remove obsolete structures**

Reduce Demand – **increase utilization, share resources**

Re-use

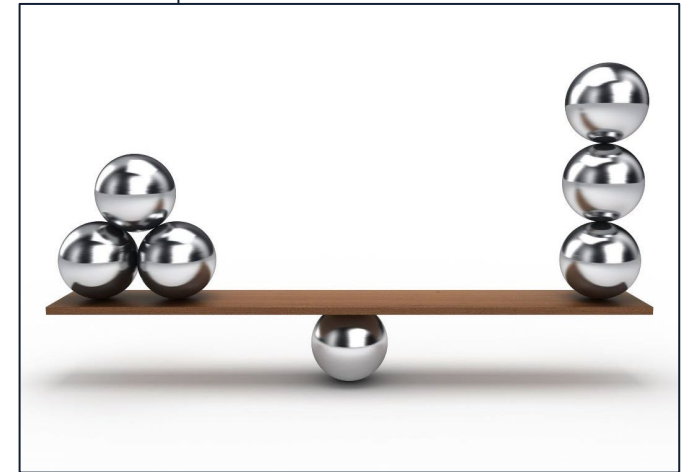
Renovate and right-size for greater flexibility and utilization

Recycle

Re-purpose facilities to create a better functional fit

Renew

Replacement space / new construction as state of the art facilities



How did we do?

Within 1.5% of No Net New Square Foot Target over Next 10 Years

- Current GSF = 23,760,000 GSF
- Space Cap = 24,386,000 GSF
- Space Bank = 626,000 GSF
- Master Plan Demo + Demo/Replace = 666,300 GSF
- Total New Construction = 1,574,000 GSF
- Net New Construction = 908,000 GSF
- Net New Construction with Space Bank = 282,000 GSF
(1.2% of 2015 GSF)

Hydrosystems Laboratory



Hydrosystems Laboratory



Thank you!

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