

University of Illinois Solar Power

Morgan White



Facilities & Services

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

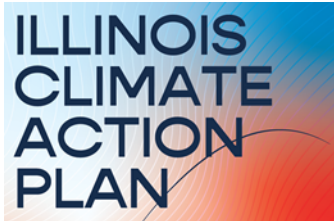
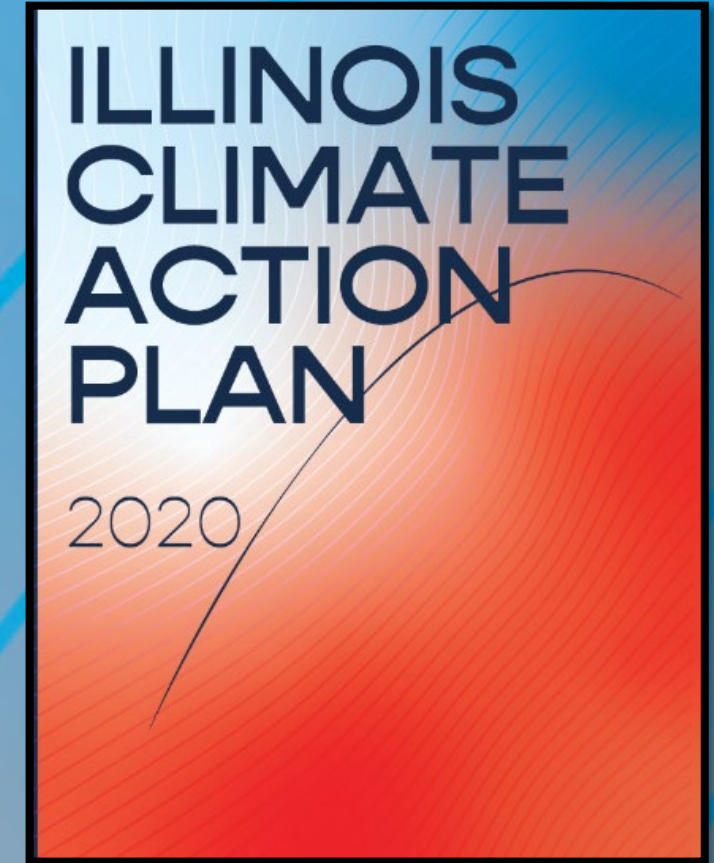
Climate Leadership Commitments



- Signed by 500+ leading American higher education presidents and chancellors
- 2008: signed the Carbon Commitment, pledging to be carbon neutral as soon as possible and no later than 2050
- 2016: signed the Resilience Commitment, pledging to build resilience to climate change with our local community

Illinois Climate Action Plan (iCAP) 2020

- The iCAP is our strategic plan for meeting the Climate Leadership Commitments
- SMART objectives for each theme, tracked on iCAP Portal (<http://icap.sustainability.illinois.edu>)

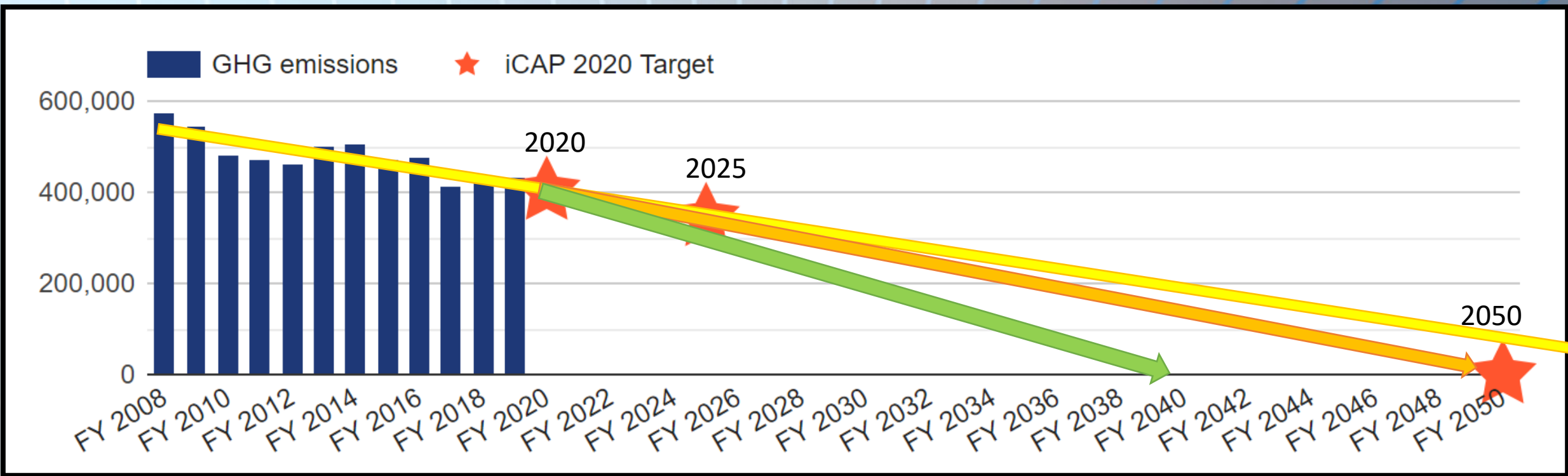


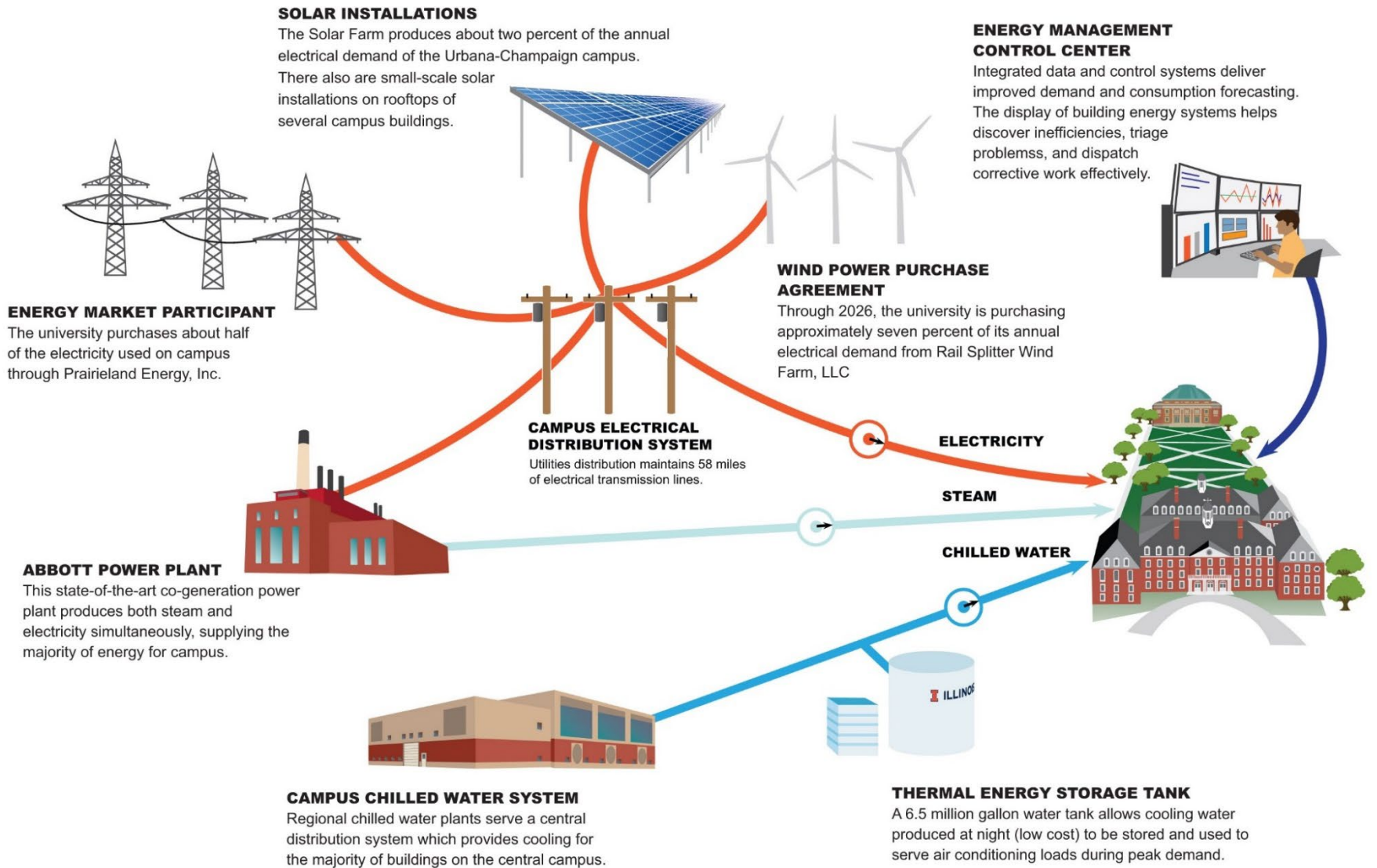
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Total Campus Greenhouse Gas Emissions





ILLINOIS
CLIMATE
ACTION
PLAN



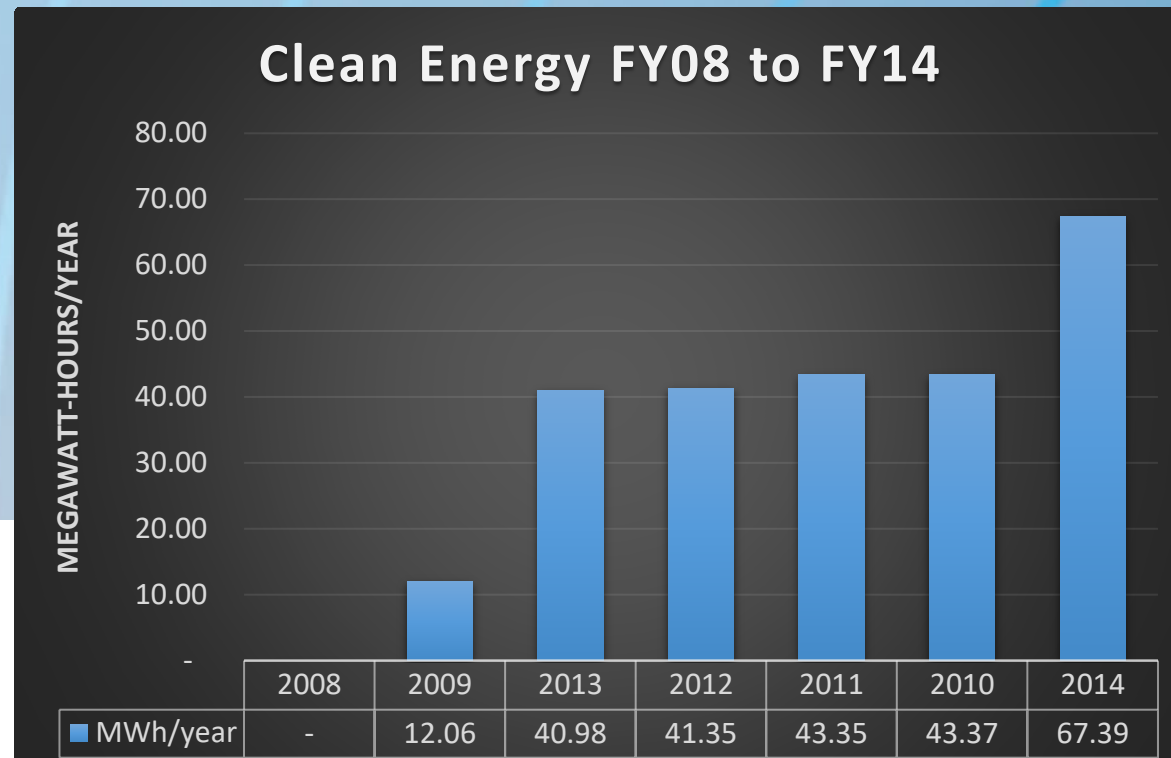
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Medium-Scale Solar Installations

- 2009 Business Instructional Facility 0.033 MW
- 2013 Building Research Council 0.015 MW
- 2016 Wassaja Residence Hall 0.033 MW
- 2019 Electrical & Computer Engineering Building 0.300 MW



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Other Solar Installations

- Uni High Gym
- President's Shed
- Idea Garden
- Allerton Solar Panels
- RE-Home by Illinois Solar Decathlon
- Gable Home by Illinois Solar Decathlon



Solar Thermal

- Activities and Recreation Center



Solar Farm 1.0

18,867 Panels
5.87 MW → ~7,000 MWh/year
~ 650 typical homes

SYSTEM SUMMARY

MODULE MODEL	HANWHA Q.PRO L-G3.1 310	HANWHA Q.PRO L-G3.1 315
MODULE STC DC RATING	310W	315W
INVERTER MODEL	ABB ULTRA 1560 TL	
INVERTER STATION(S)	STATION 2 + STATION 3	STATION 1
MODULES PER SOURCE CIRCUIT	19	19
TOTAL MODULE COUNT	12654	6213
TOTAL STC DC SYSTEM SIZE	3.92 MW	1.96 MW
TOTAL AC SYSTEM SIZE	3.12 MW	1.56 MW
DC: AC RATIO	1.237	1.234
RACKING SYSTEM	FIXED TILT	
GROUND COVERAGE RATIO (GCR)	.57	
MODULE TILT	20°	
ARRAY AZIMUTH	180° (DUE SOUTH)	
SITE LATITUDE	40°04'54"N	
RECORD LOW (°C)*	-23°C	
RECORD HIGH (°C)*	33°C	
* DATA FOR UNIVERSITY OF ILLINOIS, CHAMPAIGN, ILLINOIS		



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Solar Farm 2.0

- Capacity 12.3 Megawatts (direct current)
- Four inverters with 98.8% efficiency
- 31,122 bi-facial monocrystalline panels
- 399 rows of solar panels
- Zero waste construction
- North-south, self-powered tracking system
- Pollinator-friendly plants
- Landscape Buffer along Curtis Road
 - with funding from Student Sustainability Committee (SSC)

