**Assessment of progress towards targets and strategies stated on p. 55 of the iCAP (May 15, 2010)**

Targets (iCAP Section 9.4.2):

1. Strive to meet the requirements for renewable energy generation in the ILRPS both on campus (priority) and off campus (if necessary) as follows:
   1. 5 percent of total campus energy from renewable sources by fiscal year 2015
   2. 17.5 percent of total campus energy from renewable sources by fiscal year 2020
   3. 25 percent of total campus energy from renewable sources by fiscal year 2025

The stated targets have been interpreted as percentage of electricity generation, as in the ILRPS (Illinois Renewables Portfolio Standard); this is clarified in commitment 3.4 on p. 14 of the iCAP. The percentage of renewable electricity currently generated on and off campus is negligible.

It is anticipated that the planned purchase of Renewable Energy Certificates (RECs) will allow the campus to meet the 5 percent 2015 target.

1. End coal usage at Abbott Power Plant by 2017.

A plan to achieve this target cannot be assessed until the Utilities Master Plan is completed.

Strategies (iCAP Section 9.4.2):

1. Install at least three utility-scale wind turbines on the south campus, with a minimum of one to be installed by fiscal year 2011.

The effort to install utility-scale wind turbines was abandoned in 2011. Several efforts to provide utility-scale wind turbines were not successful due to economic and siting difficulties.

1. Increase the amount of solar photovoltaic and thermal projects.

*Solar Photovoltaic:*   
  
The following photovoltaic arrays have been installed on campus buildings:

1. 33 kW array on the Business Instructional Facility (BIF) Deloitte Auditorium
2. 15 kW array south of the Building Research Council building
3. 2 kW array on Everitt Laboratory
4. 3 kW array at the Student Sustainable Farm (off grid)

The statuses of the solar photovoltaic arrays on the Solar Decathlon Houses setup on campus are as follows:

* 1. 6.1 kW array on the 2007 Element House, anticipated installation in Fall 2014 (Energy Farm)
  2. 9 kW array on the 2009 Gable Home (grid tie to Ameren), south of I Hotel
  3. 6.7 kW array on the 2011 Re\_Home (grid tie to Ameren), Agriculture Engineering Research Farm

There are also a number of smaller photovoltaic installations, including items such as solar powered lights for signs and solar powered remote monitoring systems.

There are a number of much larger solar photovoltaic arrays in various stages of development:

1. Solar Farm: 5.88 MW array on 20.8 acres of the South Farms south of Windsor Rd and east of the railroad tracks that run parallel to Neil St. A vendor has been selected and a contract is being negotiated. A construction scheduled for this project has not been developed.
2. 400 kW array on the roof of the new Electrical and Computer Engineering (ECE) building. A schedule for this potential project has not been developed.
3. 1 MW array on the roof of the North Campus Parking Deck. A schedule for this potential project has not been developed.
4. 80 kW array on the roof of the Great Hall of the Krannert Center for the Performing Arts. A schedule for this potential project has not been developed.
5. 30 kW array as a photovoltaic glass unit window replacement on the west curtain wall of the Great Hall. A schedule for this potential project has not been developed.

*Solar Thermal:*

A solar thermal array has been installed on the roof of the Activities and Recreation Center (ARC). This array preheats water that is used in ARC.

1. Purchase off-site green energy if on-site renewable projects are not sufficient to meet the ILRPS.

No off-site renewable energy has been purchased at this time. The campus is currently negotiating the purchase of 20 GWh of MISO Wind Renewable Energy Certificates (RECs) for FY2015. It is anticipated that this purchase will be completed within the next 1-3 months.

1. Cease all investment that will enhance or increase the lifetime of the coal-fueled systems at Abbott Power Plant.

A plan to achieve this strategy cannot be assessed until the Utilities Master Plan is completed. At present, the coal-fueled systems are being maintained to operate indefinitely within all environmental compliance requirements as efficiently as practical.

1. Commission a detailed study by 2012 that examines campus energy generation and distribution systems; specifically tasked with eliminating coal use and distributing thermal energy more efficiently (hot water distribution, regeneration, geothermal use).

The commitment was to have the study made by 2012 (see p. 4 of iCAP). This commitment also indicates that the study will identify the earliest possible date for the elimination of coal steam production, as well as evaluate the potential for: 1) eliminating summer coal use in the near term; 2) eliminating all coal use by 2017; and 3) alternative means of generating and distributing thermal energy (hot water distribution, regeneration, geothermal looping) in the long term.

Affiliated Engineers Inc. (AEI) was awarded a $1.3 Million contract in 2012 to develop a Utilities Master Plan. The final report is not yet available. It is anticipated that the final report will be completed within the next 6 months.

Additional comments: Although not specified in the iCAP targets and strategies, there is a geothermal heating/cooling system installed at the Fruit Research Farm Administration Building at the Student Sustainable Farm.

Allerton Park is not included in the iCAP. However, there are some noteworthy installations at Allerton Park:

1. 11 kW solar photovoltaic array
2. Geothermal heating/cooling at the Gate House and Evergreen Lodge.

**Actions to meet the FY 2015 targets**

1. Purchase enough off-site renewable energy to meet the FY 2015 target of 5% of campus electricity use from renewable sources. With campus electricity use (excluding Petascale) at 385 GWh in FY 2013 (44 MW average power), the campus would need to purchase 19.25 GWh of renewable energy to meet the FY 2015 target.  
     
   The campus is currently negotiating the purchase of 20 GWh of MISO Wind Renewable Energy Certificates (RECs) for FY 2015. It is anticipated that this purchase will be completed within the next 1-3 months.
2. Complete the 5.88 MW Solar Farm in FY 2015. When operational, it will supply approximately 2% of campus electricity use over the course of a year.   
     
   A vendor has been selected and a contract is being negotiated. A construction scheduled for this project has not been developed.