Attendees…

**Xinlei Wang (Team Chair)**, Professor of Agricultural and Biological Engineering

**Mike Larson**, Director of Utility Production, Facilities & Services

**Tim Mies**, Deputy Director of Operations, Energy Farm, Energy Biosciences Institute

**Yu-Feng Forrest Lin**,Hydrogeologist, Illinois State Geological Survey - Prairie Research Institute; Clinical Professor, Department of Civil and Environmental Engineering; Research Professor, Department of Natural Resources and Environmental Sciences

**Catherine Yee**, Student Member

**Jack Morrissey**, Student Member

**John Flanagan (Team Intern)**, iSEE Campus Sustainability Intern

**~~Morgan Johnston~~**~~, Associate Director of Facilities & Services~~

**Ximing Cai**, Associate Director for Campus Sustainability

1. **Call to order**

**Ximing Cai**, the newly appointed Associate Director for Campus Sustainability, attended this meeting. He provided a brief introduction of himself and shared some ideas of his vision for the SWATeams within the greater iSEE framework.

* Feedback to SWATeam based on work/progress made by units towards recommendations. [**Mike:** This would be great!]
* Enhancing collections between groups.
* In the future, iSEE will extract important points from meeting notes and bring to iWorking Group meeting.
* One of **Morgan**or **Ximing** will be present at each SWATeam meeting.
* Deans of colleges may be asked to assign/recommend faculty for SWATeams.
* **Forrest** suggests having better horizontal communication with Facilities and Services.
* **Ximing** : are there requirements for renewable energy on new buildings?
* **Mike**: a recommendation to integrate a standard requiring solar on all new construction into the F&S building standards was submitted to iWG. Morgan mentioned there was not a lot of support – the biggest issue being cost to departments. Regardless, solar on rooftop will not get the campus to reach the solar energy campus iCAP goal.

1. **Approval of minutes from last meeting**

Approved!

1. **Open issues**
2. **Review \*revised\* focus topics EGEN SWATeam (see attached document)**

See notes from the meeting on the following page…

1. **New business**
2. **New team ideas for this semester**
3. Preliminary assessment for clean energy PPA (see notes on the following page)

Some ideas covered include:

* + Does F&S pay more than w/o PPA? This depends on the bid amount. Currently, solar is much more expensive than wind.
  + Cost, amount of energy to purchase, and availability are key data points for this recommendation.
  + Develop another recommendation – do this at the next EGEN meeting.
  + What are other universities doing?... OSU, SLU, Boston College

1. Fact sheet using solar farm as basis to estimate land needs and costs of additional solar farm (see notes on the following page)

* If they are going to achieve the goal what is the timeframe, cost, and land requirement? iWG is currently confident that the goal will be achieved, making this recommendation potentially very informative.
* **Mike** will get formal recommendation pieced together and share with the group.
* We will finalize the recommendation at next week’s meeting.
* What are other universities doing? **Catherine & Jack** to investigate.
* Potential land locations: south farms, Willard (FAA regulations)
* Can this be made “3D” with the addition of geothermal?

1. **Other**

\*See notes on Geothermal

1. **Adjournment**

Next Meeting: April 27, Time 4-5pm, NSRL 250

Focus topics for this years SWATeam - Clean Energy Ideas

* Expansion of on campus solar.  
  Green/brown space vs rooftop vs parking  
  What is the most cost effective way to increase solar on campus?  
  There doesn’t seem to be much support for rooftstop solar.
* Clean energy PPA.   
  Develop a recommendation to explore pricing for another clean energy PPA.  
  This should be a long term PPA. Anything less than 10 years does not provide a predictable cash flow that stimulates investment in future renewable energy development and therefore should not be considered.

Can we do a preliminary assessment, looking into options, and presenting a summary?

* + Better land
  + Investigate PPA
  + Campus has thousands of acres
  + Willard airport
  + Consider donated land to University near Chicago
  + Pros and cons of each location
* Carbon capture  
  Let’s learn more about the status of Kevin O’Brien’s work and setup a meeting with him to hear about the ISTC projects.  
  Setup meeting with Sally Greenburg to hear about sequestration at ADM.
* Air Permit - Could we pursue a more flexible air permit that would allow the campus to test burn various biomass options at Abbott?  
  Setup meeting with F&S Environmental compliance to provide an overview of the campus Title V air permit, and review the options for burning biomass on campus.
* Geothermal: Xinlei and Forrest both have expertise in ground source heat pump systems. What opportunities can we pursue on campus to implement GSHP technology? New construction seems preferable because old buildings are integrated into steam system on-campus.

**Notes from 4/13 Meeting:**

**Forrest:** There are a lot of cost savings based on improvements, some being pursued by Forrest at ISGS.

* + Currently, industry practices based on rule-of-thumb. For instance, drilling to 300 ft instead of 500 ft. Cost of drilling does not have linear relationship with depth. Instead, drilling to 200 ft could cost 3x as much as 100 ft.
  + There are a lot of new buildings in the master plan, these could be prime opportunities for implementing geothermal technology.