

iWG Meeting Minutes April 9th, 2018

Members Present: Morgan White, Ximing Cai, Sean Reeder, Scott Willenbrock, Matthew Tomaszewski, Laurence Uphoff, Robert Fritz, Joseph Kreiling, Matt Moy, Nick Heyek

Members Absent: John Dallesasse

Invited Guests: Yu-Feng Lin (eGen SWATeam)

Clerk: Sarthak Prasad

1. Introduction

- Ximing started the meeting with a brief introduction. He shared his presentation and experience at a workshop on campus sustainability, hosted by the University of Michigan last week.
- SSC representative, Nick Heyek, and SSLC representatives, Matt Moy and Joey Kreiling provided updates from their respective departments.
- Update from SSC by Nick Heyek
 - SSC did not have the voting meeting yet, but it is scheduled for April 14.
 - The major update to be reported was the potential collaboration with other universities. They have a Skype call scheduled with a university in Chile next week.
- Update from SSLC by Matt Moy and Joey Kreiling
 - SSLC members have been talking about the Earth Week and its promotion.
 - Water day is this week, too.
 - They are still finalizing the SSLC for the next semester.

2. Updates

a. ECONS006 Assessment completed

- Morgan updated the iWG that the assessment for the ECONS006 Energy Conservation Funding 2017 recommendation has been completed.
- It will be sent to the Unit (Provost Office) tomorrow morning. The Provost Office has a meeting scheduled at the end of April to discuss the F&S budget.

b. Sustainability Council in Fall

- Morgan talked about how infrequent are the Sustainability Council meetings have been. The formal procedures indicate the Council should meet every semester, but since summer 2014, they have only met four times. They met Dec. 2014, May 2015, March 2017, and Dec. 2017, and there is no longer a meeting scheduled for this spring 2018 semester.
- Historically, the meetings were only called if a SWATeam recommendation needed to go to the Council's attention. This led to long periods without any interaction with the Council.

- Evan DeLucia recently agreed that the Sustainability Council should be given an iCAP progress update every year in the fall semester.
- They are planning to schedule a meet with the Council for every November. November is good because the iWG can submit a finalized report to the Council, which they prepare with the SWATeams for the October Campus Sustainability Celebration. If there is a SWATeam recommendation to review at the Council it can be included in November, or there could be another Council meeting in the spring.

c. Reappointment/Selection for the SWATeams

- Ximing asked the group for their opinion on SWATeam reappointment. He also mentioned that they also need to revisit the iWG reappointment and asked the iWG members to let us know if they are open to returning to the iWG for the next Fiscal Year.
- Ximing wants to talk about the performance of the SWATeams. The group agreed that we may discuss it in the next meeting.
- Morgan talked about the SWATeams and their roles. She also discussed the PWR SWATeam and Brad Henson, who is from the Purchasing department and a member of PWR SWATeam. He has not attended any of the PWR SWATeam meeting, but he told Morgan that he wanted to be present for those meetings. He also told her on a phone call, that from now on, for all the future PWR SWATeam meetings if he is unable to attend, he would try to send a replacement.

d. Green Labs Coordinator – Step-2

- Morgan told the iWG that they have submitted Step-2 (for \$11,000) to the SSC, to fund the student part only.
- Morgan said that Ximing, Helen Coleman, Evan DeLucia, and Morgan should meet with Jan Novokowski (Research Safety & Compliance for the Vice Chancellor for Research) to talk about the possibility of hiring a full-time Green Labs Coordinator (on a Visiting role), who is proposed to report to Morgan and tie together the 3 groups: iSEE, F&S, and DRS.
- Ximing says that they need to finalize the finance plan for the position before we post the job. Morgan and Ximing talked about the funding sources and said that as discussed in previous iWG meetings, DRS, iSEE, and F&S, will/should contribute, in addition to the SSC contribution.

e. Solar Farm 2.0 – Site selection yet to be finalized, but we now have External Legal Counsel

- Morgan said that the site selection for Solar Farm 2.0 needs detailed maps and potential sites. Brent Lewis is finalizing the maps. She said that the potential site is only proposed until the Site Selection Committee is completed and the Chancellor's Capital Review Committee approves it.

- Morgan updated the iWG that they have hired an External Legal Counsel, Paul Durbin, for PPAs, RECs, and RFP details, etc. He also helped them with the Solar Farm 1.0 and Wind PPA.
- Ximing talked about University of Michigan's sustainability effort and his seminar there. He showed the group pictures of solar panels installed over parking lots at the University of Michigan. He told the group that some were above parking lots with solar panel. The major takeaway for him was that the UMich said the Campus Sustainability is essential to retain the bright minds and bring new students/faculty/staff who want to make a difference.
- Scott asked Morgan about the location of Solar Farm and the bike paths associated to it. Morgan said that they have reached out to Savoy about the bike path. She also said that Helen Coleman and Mike DeLorenzo have lunch meetings with Savoy officials and they will discuss the Solar Farm 2.0 and the bike path.
- Scott asked about the term-limits on the contract for the PPA.
 - Purchasing has more information about the term-limits.
 - The old State Procurement law states that the Purchasing agreement could not be for more than 10 years. However, there is a new Procurement law in progress that might allow for 20 years.
 - Sean said that there is another one that allows 15 years for Energy.
- The group agreed that the longer term agreement would be better.
- Morgan said that they intend to start on the technical aspects and start to work on writing the RFP.

3. Other updates

a. Living lab seed grant

- Ximing explained the Living Lab seed grant concept to the iWG. He said that he wants to encourage the faculty to use the iCAP projects.
- iSEE has initialized a seed funding program to encourage campus researchers to use campus facilities and iCAP projects as testbeds for research and as educational development when they prepare a proposal for external sources. The seed funding can be up to \$30,000.
- He gave a couple of examples
 - A group might be working with the Abbott Power Plant and also with Biomass processing.
 - Weather monitoring and Remote sensing.
- Ximing said that they have already received 3 submissions, and he has reviewed 2 of them (and asked for more information).
- Morgan added Yu-Feng Lin's geothermal proposal could be another example of this program.

b. Dockless Bike-Share

- Morgan told the group there is a City Council meeting tonight where they will review the Bike Share pilot program.
- She said that we are working on an intergovernmental agreement between the City of Champaign, City of Urbana, and the University of Illinois.
- Morgan told the group the university require the companies to register and pay \$5 for registering the bikes they bring. She talked about and explained the Concession Agreement to the iWG.
- The group had questions about the finances and how much it would cost the university. Morgan said that the major expense in Bike Sharing is the docks where the bikes are kept. Dockless bikesharing companies are going without this and that's why the Dockless Bike Share will not cost the University of Illinois or the cities anything.
- Morgan said that we are regulating the bike companies, and they are expected in May.
- Scott asked her on how to book a bike and how much would it cost them.
 - Morgan said the users will just need a smart phone, where they can install apps for each vendor. The bike through this program typically cost the users 50 cents per hour.
- Larry asked where they will be deployed.
 - Morgan told him about the Bike Parking areas. She also said that there will be company paid Rebalancing teams, who will move the bikes back to the approved bike parking areas.
- Scott asked how many vendors will there be and how many bikes are we expecting?
 - Morgan said that there are 7 vendors and each vendor could bring a maximum of 500 bikes.
 - We expect about 2000 bikes
 - We have around 12,000 bike spaces on campus, but not enough bike parking at the core bike areas (like the Union, Library)
- Scott asked why are not selecting just one vendor but several
 - Morgan told that we are not doing an RFP and selecting one vendor. Our agreement with the cities is to allow any interested company to bring dockless bikes, through a joint licensing program. It allows for a free market environment and support economic development.

They received some funding from the SSC for home-grown bike sharing, which will go towards high-density covered bike parking. These denser parking areas will be at high use locations (right now one is funded at the Main Library). There is also a proposal for a location near the Union (Henry Administration building).

4. PWR011 SmartWay Union – Discussion and Assessment

- Ximing updated the iWG about the meeting between Larry, Morgan, Ximing, and Warren Lavey (PWR SWATeam) on April 2. They met with Prof. Lavey to discuss the SmartWay Union recommendation, as he was unavailable for the iWG meeting.
- Larry said that there are a lot of SmartWay (SW) vendors. If we use the SW vendors, there will not be much to see internally (for the university) but we are concerned for overall sustainable environment and the SW program will have a good impact on the society.
- Larry has talked with Jamie (Illini Union Director) and Managers of Bookstore and Document Services.
- It is a low dollar federal program.
- We should report with SW for the highest volume vendors, say top 5, that we purchase from.
- We are not suppliers, but we should encourage the suppliers to join the SW program so that their shipping follows the SW program and we can say that we are using their services, hence we are part of the SW program. Additionally, these suppliers serve other clients too, so we would have a larger impact on sustainability outside the U of I.
- Professor Warren Lavey told in their meeting that he will connect us with someone from EPA, who will walk us through the process.
- Larry was not sure as to what information they (SW program) are looking for during the initial registration and then yearly renewal.
- Scott mentioned that Housing is only reporting the SW data.
- Morgan said that she has sent a note to the F&S store, but she is yet to hear back from them.
- Everyone agreed that this is a good way to be more sustainable.
- We should look at Krannert also.
- The iWG agreed that the Illini Union and F&S should go through this and serve as a pilot for other places on campus.
- Scott pointed out that Housing is listed as a Shippers but in the recommendation the PWR SWATeam recommended that the Union and F&S become SW Logistics Companies.
- Sean and Scott explained to the group about the difference between a shipper and a logistics company (that hires a freight companies and manages freight and shippers).
- Larry, Sean, and Scott confirmed that we cannot be a Logistics Company. The iWG agreed that the Union and F&S must be enlisted as shippers and not as logistics companies.
- Larry thinks we need to discuss with Kit at Housing first.
- Ximing said the deadline to enlist in SW is in December. So we can wait to assess this recommendation (in the next meeting).
- Morgan suggested there should be a meeting between Kit and the departmental representatives from the Union and F&S.

Final comment: The iWG will assess this recommendation in their next meeting.

5. **EGen talking point** – Potential Geothermal on Campus (geothermal exchange, deep direct use and energy piles), we might want to think about revisiting the feasibility of geothermal alternatives.

- Ximing introduced Professor Yu-Feng Lin.
- Prof. Lin explained the concept behind Geothermal, and said that both East and West Coasts have a lot of Geothermal with steam running turbines. There is not much geothermal in the Midwest. He then talked about the three geothermal options.

(i) Geothermal Exchange:

- Based on sub-surface heat exchange
- Average high in Champaign, in July is 90°F, and average low on Champaign, in January is about -10°F. Comfortable temperature is 70°F. So we have to regulate the high of 90° to 70°, and -10° to 70°, which is a huge temperature difference.
- Prof. Lin said, let's assume the underground temperature is 55°F, the adjustment will only be 15°, and because of that we could potentially save 30-40% or more of the energy.

(ii) Deep Direct Use

- Prof. Lin said that the Mahomet aquifer is shallow.
- Natural Gas is stored at 2000 ft deep, and the temperature at 2000 ft is 80-90°F. ADM sequester CO₂ at 5000 ft deep, and the temperature at 5000 ft is around 130°F.
- We can use this heat for geothermal purpose. This could be used on district level, military and campus.
- DOE has given \$720,000 to do a feasibility study for using DDU geothermal on South Farms, near the Energy Farm. The feasibility study will be finished in 2 years, if it is positive then we can move forward with this. Hopefully, DOE will help fund installation.

(iii) Energy Piles

- It is still in an early stage.
- The most expensive part of geothermal is digging/drilling the well field. So, let's install geothermal heat exchange loops with a building's foundation (piles) at 50-70 ft (depending on building height) for new buildings.
- It can only be done during the start of the construction of a new building (since we want to install these heat exchange loops with the foundation).
- The capacity is very good.

Prof. Lin said that EPIC is a good example of this. Cornell and Stanford are good examples, but no university in the Midwest.

Scott told Prof. Lin about the Utilities Master Plan which was completed in September 2015. They compared 10 renewable avenues including Solar, Wind, Biomass, and Geothermal, and Geothermal was the most expensive. Dr. Lin said that is true using the traditional style of geothermal design, but he described methods that could reduce the total costs.