

SWATeam Recommendation

Name of SWATeam: Energy Generation, Purchasing, and Distribution SWATeam Chair: Scott Willenbrock

Date Submitted to iSEE: 7/25/2014

Specific Actions/Policy Recommended (a few sentences): We strongly endorse pursuing Power Purchase Agreements (PPAs) with one or more Wind Farms as soon as possible. Given current market conditions, we believe that a PPA with one or more Wind Farms presents a great opportunity to purchase renewable energy in support of the campus iCAP targets.

Suggested unit/department to address implementation: F&S

Anticipated level of budget and/or policy impact (low, medium, high): high

Individual comments are required from each SWATeam member (can be brief, if member fully agrees):

Team Member Name	Team Member's Comments
Scott Willenbrock	We should purchase as much wind power as we reasonably can.
Mike Larson	We should pursue a Power Purchase Agreement with one or more Wind Farms as soon as possible. We should target the purchase of as much wind power as possible, taking into consideration items such as reliability, risk, cost, and progress toward iCAP targets.
Tim Mies	I am in agreement with this recommendation that we pursue a PPA with Wind Farms for campus power generation.
Nathan Wells	We should purchase as much wind power as we reasonably can and as soon as possible. The time frame of the agreement should be held with regard to the iCAP focus on campus generation and possible future renewable energy developments on campus that could feasibly be commissioned within the iCAP 2050 time frame.
Drew O'Bryan	We should enter an agreement to purchase as large a percentage of our electrical energy needs as possible.

Comments from Consultation Group (if any; these can be anonymous): N/A

Explanation and Background (can be supplied in an attachment):

Wind Farm PPA Position Paper

iSEE

Energy Generation, Purchasing, and Distribution SWATeam

July 2014

We strongly endorse pursuing Power Purchase Agreements (PPAs) with one or more Wind Farms as soon as possible. Given current market conditions, we believe that a PPA with one or more Wind Farms presents a great opportunity to purchase renewable energy in support of the campus iCAP targets.

Background

The University, via the Illinois Climate Action Plan (iCAP), has set a goal of generating or purchasing renewable energy as part of its energy portfolio. A specific target of 25% of electricity usage from renewables by 2025 was set, mirroring the Illinois Renewables Portfolio Standard (RPS). However, there is no fundamental reason to stop at 25% if the renewable energy source meets the University's needs, nor to wait to 2025 to meet this target. In order to reach carbon neutrality by 2050, as specified in iCAP, it is envisioned that 100% of generated or purchased electricity will come from renewables or other zero-carbon sources.

The University must purchase a significant amount of electricity each year to meet its energy needs. Campus electricity usage in FY2013 was 470 GWh, of which 198 GWh was purchased. This corresponds to an average purchased power of 23 MW. If a Wind Farm had a capacity factor of 30%, this would correspond to a nameplate capacity of approximately 75 MW.

The financial analysis of the purchase of renewable energy is beyond the scope of this document and not factored into our endorsement. This analysis would include not only a review of price, but also a review of how well the power production from a Wind Farm would match the anticipated campus demand for purchased power. We anticipate that such a purchase will come at a premium. The purpose of this document is to elaborate upon the benefits of a renewable energy purchase via a wind farm PPA.

Wind Farms

The state of Illinois has significant wind resources, as evidenced by the recent construction of wind farms across the state. Electricity from wind farms is competitive with other electricity sources thanks in part to the Production Tax Credit (PTC) of \$23/MWh. Compared with a typical electricity price of \$40/MWh, this tax credit clearly plays a major role in making wind energy affordable. The PTC expired at the end of 2013, so unless Congress acts the cost of electricity from new wind farms will increase considerably. However, there are several wind farm developers that have the potential to build new wind capacity and qualify for the PTC if the wind farm is completed by the end of 2015. This means that the University must act quickly if it wants to partner with these wind farms.

A potential wind farm seeks to strike Power Purchase Agreements (PPAs) with customers to ensure a market for its electricity at a known price. While the details of a PPA vary, it is the most direct way to purchase wind energy, and clearly facilitates the construction of new wind capacity.

There are no other sources of renewable electricity that are priced competitively with grid electricity at present, and it is unlikely that a better deal than a wind farm PPA (supported in part by the PTC) will appear in the foreseeable future.

Wind Farm PPA considerations

1. A wind farm PPA would allow the University to claim that it is using renewable energy. Each MWh purchased from the wind farm is accompanied by a bundled Renewable Energy Certificate (REC), which the University would own. Only the owner of the REC can claim to be using renewable energy.
2. A wind farm PPA would allow the University to purchase renewable energy at a known price for the duration of the PPA.
3. A wind farm PPA would allow the construction of additional wind capacity. In contrast, unbundled RECs are purchased from existing wind farms.
4. A wind farm PPA would enable the University to identify a specific source of purchased renewable energy.
5. Of its Big Ten peers, both Ohio State University (50 MW nameplate capacity) and Iowa State University (6 MW average delivered power) have entered into PPAs with wind farms.
6. The location of the wind farm is of secondary importance, since it will not be on campus.
7. If the wind farm were located in Illinois, the University would be supporting economic development within the state, and creating jobs in the local wind industry.
8. Students for Environmental Concerns (SECS) supports wind farm PPAs.

Energy Generation, Purchasing, and Distribution SWATeam

Scott Willenbrock

Mike Larson

Tim Mies

Nathan Wells

Drew O'Bryan

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Ben McCall, Chair iCAP Working Group 1101 West Peabody

September 12, 2014 RE: EG001 Ben,

This letter is in response to the Illinois Climate Action Plan (iCAP) Working Group (iWG) recommendation #EG001, which Facilities & Services (F&S) received on August 28. F&S agrees that the campus should investigate the feasibility of entering into a Wind Power Purchase Agreement (PPA) to increase the use of renewable energy for campus.

Regarding the EG001 general statements about campus energy use, data points, and assessments of anticipated financial impacts, F&S will need more time to compile a useful response. Regarding the three specific EG001 recommendations, I have consulted with Al Stratman, Kent Reifsteck, and Mike Larson to provide the responses below.

1. Recommendation: *“The campus should undertake a Power Purchase Agreement for wind energy. Based on currently available information, we recommend that the amount be at least 119 million kWh per year (25% of our total electrical usage), but we should aim to purchase as much as we possibly can, given any technical, financial, and contractual constraints.”* From this recommendation, we understand that the iWG recommends entering into a Wind PPA for at least 25% of the FY15 electrical demand. However, the campus cannot make an informed decision about whether or not to undertake a PPA until the financial impact is fully understood. A key component of the financial impact is the fully burdened cost of the purchased wind power, which will not be known until after the successful completion of the Request for Proposal (RFP) process. Therefore, F&S does support pursuing a PPA so the feasibility can be evaluated, but we do not support making a final decision to undertake a PPA until completely evaluating the financial implications.
2. Recommendation: *“The effort to secure a PPA should be pursued as quickly as possible. The campus should inform PEI that this is a top priority, and that the review of RFI submittals and the issuance of the RFP should be expedited by all necessary means.”* During this summer, F&S worked with PEI to define a schedule for issuing a Request for Information (RFI) and a subsequent Request for Proposals (RFP). This schedule shows a completion date of April 2015, so that the PPA could commence with delivery of power on July 1, 2015, at the start of FY16. We have informed PEI that this is a top priority, along with safety and reliability of the overall campus energy system.
3. Recommendation: *“The iCAP Working Group should be kept informed and advised during the process of pursuing the RFI, RFP, and PPA, and given the opportunity to provide recommendations before key decisions are made about the PPA, to ensure that technical and financial considerations are appropriately balanced with our campus sustainability objectives.”*

F&S values the advice and input from sustainability advocates on campus. Therefore, we suggest developing a set of interim checkpoints for keeping the iWG informed as the process unfolds.

To meet our Climate Commitment and achieve carbon neutrality, there is a lot of work that needs to be done. I look forward to working with the iWG and the SWATeams as this recommendation is pursued.

Sincerely,

Morgan B. Johnston

Morgan B. Johnston Associate Director of Sustainability, F&S

Cc: Al Stratman Kent Reifsteck

Mike Larson iCAP Working Group



Professor of Chemistry BENJAMIN C. ALL Associate Director of Campus Sustainability Telephone: (217) 244-0230 Institute for Sustainability, Energy, and the Environment FAX: (217) 244-2006 1101 W. Peabody, Suite 350, MC - 635 campus sustainability@illinois.edu Urbana, IL 618 01 October 10, 2014 Allan Stratman Executive Director Facilities & Services

Dear Al,

I am writing on behalf of the Illinois Climate Action Plan Working Group (iWG) to thank you for F&S's response to our recommendation regarding "Wind Power Purchase Agreement." We were very much heartened by the collaborative spirit of Morgan's letter.

The iWG feels strongly that simply establishing certain checkpoints where F&S would share information with the iWG will be insufficient to ensure that the campus sustainability perspective is infused throughout the RFP process. Instead, the iWG would like to be considered one of the "responsible parties" listed in the RFP timeline, along with F&S, PEI, and FM. We would like a representative from our group to be a part of all stages of the RFP process, beginning with the review of RFI responses. This will ensure not only that the full iWG can be kept informed about progress, but also that input from the iWG is considered at every stage.

As you know, the evaluation of the financial aspects of a wind PPA is complex. The iWG believes that enough information is now in hand (between the RFI results and the extensive data that F&S maintains about campus usage) to make an early estimate of the financial premium for wind power, and the maximum size of a wind PPA that would fit within our campus demand profile. If this estimate suggests the premium may be significant, it will be essential to begin a conversation with the campus community about what level of additional investment is appropriate to advance our climate commitment. This conversation should begin well before the RFP process concludes.

We hope you will agree that F&S, the iCAP Working Group, and iSEE can most effectively advise the campus on advancing our shared sustainability objectives if we work together. Please let me know whether our recommendation to include a representative of the iWG on the wind PPA RFP team is acceptable to you. We will then work quickly to identify the representative and engage with your team.

We very much look forward to building a more robust and effective partnership with F&S on these issues and many others in the arena of campus sustainability!

Sincerely,

Benjamin J. McCall
Chair, Illinois Climate Action Plan Working Group