

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.

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