

University of Minnesota Twin Cities

Community Solar Garden Subscription Roadmap

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Mauricio Leon
Connor Schaefer
Jonathan Thalman
Andrew Fang

Introduction

The University of Minnesota has taken a step forward in advancing sustainability and resiliency by the deliberate decision of implementing solar power in its facilities. This roadmap describes, in a sequence of steps, the process of the University of Minnesota, a higher education institution, in deciding to pursue a Community Solar Garden Subscription (CSG) from local developers. The intention is that this information will help guide other higher education institutions that are considering this pathway.

Background

The University of Minnesota before 2016 was fairly new to the idea of solar power. There were some small projects in place, like a small array on the rooftop of the University Plaza, an office building located in the Twin Cities Campus, but these were relatively small and did not exceed 100 kWh of capacity. The University also had some wind power projects.¹

What led the University to go through with solar this time, as opposed to the other times solar investment was considered?

“Economics have improved since the last renewable energy evaluation. The Community Solar Market has matured since initial launch - regulations are more certain and the marketplace of potential vendors is better established.”

Shane Stennes, Director of Sustainability, University of Minnesota

Was there a key voice or stakeholder that changed their stance and became pro-solar? What changed their mind?

“I am not sure anyone involved was anti-solar, but several people articulated legitimate concerns and questions throughout the process. Stakeholders and key decision makers endorsed the recommendation to proceed with Community Solar procurement as those concerns were satisfactorily addressed through information, data, etc.”

Shane Stennes, Director of Sustainability

The university's interest in solar power has been slowly increasing in both the administrative and academic areas. In 2015, the Energy Transition Lab created the SUN Delegation. This initiative consisted of a group of students and faculty working on analyzing pathways towards solar power at the University. In December 2015, the SUN Delegation produced a Campus Development Roadmap, a document that summarized their pros and cons of solar power up to that point.

A Community Solar Garden (CSG) is an arrangement where a developer owns a PV array and sells the electricity to subscribers. The land or building used for the array, often referred to as a host

¹ Note that the UMN Morris campus in rural Minnesota has been a leader in advancing renewable energy and carbon neutrality. This report focuses on the main campus covering Minneapolis-St. Paul.

site, typically is leased by the developer for 25-30 years. This method of power sale and production was authorized by state legislation in 2013². As a subscriber, the UMN would benefit from a Community Solar Gardens subscription by receiving a bill credit from Xcel Energy for each kWh produced, while at the same time not having to install or maintain a solar array directly.

Theoretically, the University could participate in CSGs in up to three ways:

1. Lease property to a CSG developer.
2. Develop and own CSG.
3. Purchase power from a CSG on campus or from other eligible projects.

We have identified steps that summarize the process of acquiring a solar subscription (option 3).

²Minn. Stat. Section 216B.1641

THE 12 STEPS

Step 1

Identify Key Actors and Decision Makers

1st: November 2015³

2nd: January 2016

3rd: April 2016

Gatekeepers: Director of Sustainability (Mr. Shane Stennes)

- Many individuals and groups at the University were interested in solar power; nonetheless the Office of Sustainability is the one who transformed this interest into action. Mr. Stennes was the person who connected and facilitated communication among the students and staff and the key decision makers.

Decision Makers: CFO and VP of University Services

- Solar investment was a unique purchase for the U. For significant decisions where there's not an existing framework or mental model, there's a higher burden to overcome. This is simply a feature of human and organizational psychology.
- Decisions that exceed a certain amount of dollars are delegated to the higher administrative staff and the Board of Regents. In this case, two main decision makers were identified:
 - One was the VP of University Services, Pamela Wheelock. University Services is the department of the university that is in charge of decisions that relate to the physical infrastructure and operating systems of the University.
 - Since solar panels are considered an infrastructure investment, VP Wheelock had an important say in both the system and the budget implications of this. A Community Solar Subscription has the advantage of liberating the University from the concerns about maintenance and

³ Some of these steps occurred multiple times or simultaneously throughout the process. This is demonstrated in the dates listed below the step title

operation of the system, since this would all be done by the developer. It is more of a budget decision.

- Another key decision maker is the CFO Mr. Richard H. Pfitzenreuter. This is because the decision involves changes in the broad university budget.

Catalyzers: Students

- An instrumental component of the process was to take advantage of the engagement and enthusiasm of the student body. In the Fall of 2015, the SUN Delegation was created in an effort by the Energy Transition Lab at the Law School to convene students from different disciplines in order to analyze potential pathways to solar energy. In the Spring of 2016, the work of the SUN Delegation was formalized into a class, where students could be involved even more by receiving academic credit for their work.

Step 2

Convene Key Stakeholders

1st: November 2015

2nd: January 2016

- In addition to Key Actors and Decision Makers identified above, this also includes:
 - University Service Finance, who manage financial matters for facilities, energy, etc.
 - University Office of the Controller, who analyze potential impacts to debt service/debt capacity.
 - Office of General Counsel – Purchasing, who can we enter a contract of this length, and helped with the process required for the procurement/selection.
- After some preliminary discussions with the key decision makers, it was necessary to assemble with a broader group of stakeholders, to hear their input. This group would bring more technical/practical concerns to the conversation. This is very valuable because it moves the project from an idea to potential implementation.
 - Two important stakeholders in this process were Mike Berthelsen, Associate Vice President and also Jerome Malmquist who is the Director of Energy Management at the University. Mr. Berthelsen and Mr. Malmquist brought their particular concerns and comments on the potential of the project from the facilities and energy perspective.

Step 3

Identify Risks/Concerns from Stakeholders

November 2015 through present

- **Financial Exposure:** One of the main concerns is the financial viability of the project. In other words, will they end up underwater by paying more for subscription than they receive in bill credits? There are clear benefits of a CSG Subscription that have helped offset the negatives. As a subscriber, the University would benefit from a Community Solar Gardens subscription by receiving a bill credit from Xcel for each kWh produced, while at the same time not having to install or maintain a solar array directly. Yet, it must be said there may be an element of risk associated with this procurement option due to the uncertainty of the Applicable Retail Rate⁴ increase. Currently, a good estimate, based off of historical data, was calculated, and is profitable for the most likely developer rates, but there is still uncertainty surrounding this option.
- **Accounting Risk:** The University is very careful about making decisions that could compromise the already delicate balance of finances. The University considered how they would treat the subscription payment relative to accounting standards and reporting long-term obligations.
- **SRECs:** Solar Renewable Energy Credits: If available, the University could benefit from claiming the credits for renewable energy from a CSG Subscription.
- **Integration with the electricity grid:** One of the main conveniences of CSG is that it does not require physical installation at the campus, all the exchanges occur through the power utility grid that connects a solar garden somewhere in the state with the university.
- **Solar Developer Risk:** Solar infrastructure can experience significant turnover in ownership. This turnover adds an element of unpredictability when signing a contract with a solar developer. If the developer is unable to deliver on the project, the University will be less likely to pursue these investments in the future. Other CSG subscribers can back out of or sell their subscriptions, another unknown factor.
- **Reputational Risk:** Simply put, the University has a certain reputation to uphold. If the University is affiliated with an unsuccessful project, the public perception will be negatively affected – including perspective professors and students. Conversely, a successful project can result in a reputation boost – especially if it lowers energy costs and demonstrates the University's commitment to a sustainable future. Finally, does not even pursuing solar investment have an impact the University's reputation – especially if students are organizing support for the cause?

⁴ Set by the Minnesota Public Utilities Commission.

- **Regulatory Risk:** The regulatory environment that governs the solar industry is nuanced and relatively new. Navigating through this is inherently risky because there is a potential for changes in the program that would impact the University.

Step 4

Hire Consultant (Eutectics)

Hired in beginning

Retained October 2015

- The purpose of hiring a consultant was to obtain a different perspective from those predominant at the University. It also allowed the university staff to obtain outside knowledge that did not exist currently on campus.
- What have others in the area done to attain local solar energy? What options are available?
 - The consultant helped to answer these questions regarding of the landscape of CSG in Minnesota and how could the university take advantage of this model as well as an expert analysis of the economics.

Step 5

Draft Recommendations with Key Stakeholders

December 2015

- Once the information was collected, the next step was to synthesize what was obtained from different parts and presenting it to key stakeholder for further feedback.

Step 6

Reconvene with consultant

January 2016 – March 2016

- What do other RFPs look like?
 - There are not case studies of other universities who have a CSG subscription of more than 1 MW. The University of Minnesota is a pioneer in this endeavor and the reason for this is to become a leader in solar energy.
- Power Purchase Agreement? CSG? Hosting? Which model is right for the university?
 - CSG is not the only way to go solar energy. There are other alternatives that the University could analyze and determine to be more cost-effective.

Nonetheless, at this point, CSG is the most expedite way to acquire solar power.

- Utility considerations: Escalation rate of utility prices, solar options with utility, CSG timeline/queue
- Which developers are available in the area? What offers are potentially available?

Step 7

Draft RFP

February 2016 – March 2016

- Work with the consultant to make sure all risks/concerns are addressed for the decision makers.
- First, look through proposals of other projects, such as municipalities, in order to get a feel for general requirements.
- Identify University specific requirements regarding RFPs.
- Agree on evaluation criteria to incorporate in RFP. Each criterion should carry a weight, typically associated with importance.
- Seek legal support and review of language and terms of RFP.

Step 8

Release RFP

March 2016

- The RFP was released in March of 2016.
- The University has a protocol for posting RFPs.
- The Office of Sustainability had to identify additional sites to post RFP. You want to receive many submissions in order to make it as competitive as possible.
- Typical RFP schedule includes:
 - Issue Date: Date of your choosing
 - Pre-proposal meeting: Shortly after Issue Date
 - Deadline for Questions: 5-7 days after Pre-proposal meeting
 - Close Date & Time: typically 7-10 days from Question deadline

Step 9

Evaluate proposals with 6 member committee

April 2016

- The committee delegated to analyze the RFP has to convene and read each of the proposal offered to the University and chose the best ones based on a list of criteria established prior to this step.
- Committee members graded each RFP individually and then came together to collaborate and evaluate together.

Step 10

Present recommendations to the CFO and VP of University Services

April 2016

- Evaluation committee present reaction from the quality of submissions.
- CFO and VP of University Services ask questions and provide general feedback.

Step 11

Negotiation with Developer(s)

May 2016

- Based on feedback from committee, CFO, and VP of University Services, negotiations with developer(s) can take place. This is important to maximize the University's investment.
- Add-ons that would not be considered vital to the project can be discussed here. Can the developer offer any unique educational or research opportunities within the project? What partnerships are possible in working with this developer for the future?

Step 12

Implementation and Evaluation

TBD

- The last step of the process is the implementation and evaluation of the community solar garden subscription.
- Work with developer to ensure the implementation goes according to plan and is on-schedule. Request updates and a regular interval.
- Evaluate and document process: What worked well? What would you have done differently if you were to do it over again?

