

View results

Respondent

13

Tim Mies

16:05

Time to complete

Instructions:

Please adhere to the session word counts. Project leads must attend one SSC working group meeting post step 1 application submission. If you have any questions about the application process, please contact the SSC at Sustainability-Committee@illinois.edu.

1. Have you attended a working group meeting and presented your project to the committee before this application? The SSC requires attendance at a working group meeting to remain eligible for SSC funding. If you have not attended a working group meeting, please do so and then continue the application.

Linked below is our calendar with all of our working group meetings

<https://studentengagement.illinois.edu/student-sustainability/ssc/calendar/>

*

☒ Yes☐ No

2. Please enter the dates of the working group meetings you attended. As a reminder, the working group meetings are structured as followed:

- Energy + Transportation and Infrastructure working group.
- Food & Waste + Land, Air, and Water working group.
- Education and Justice working group.

*

3. Project Name: *

4. Total Funding Requested From the SSC. *

5. Date of application. *

11/16/23

6. Project Lead Full Name: *

Tim Mies

7. Project Lead University Email Address. *

tmies@illinois.edu

8. Project Abstract: (In less than 100 words, briefly describe the project.) *

Agrivoltaics is a growing research area as national solar farm growth continues to compete with agricultural lands used for food production. The Energy Farm was able to acquire 60 solar panels (surplus from a completed campus research project) , solar frames, and identify research funds to assemble the structure. Undergraduate and graduate students were able to actively assist in the construction and installation of these panels in May 2023. If this project were to be funded, the balance of the electrical work would be completed to allow the solar panels to once again feed electricity into the campus grid.

9. Project Category *

- ☐ Education & Justice
- ☒ Energy
- ☐ Food & Waste
- ☐ Land, Air & Water
- ☐ Transportation & Infrastructure

10. Do you have a change in team members? *

- ☐ Yes
- ☒ No

Project Questionnaire:

11. Any press releases or educational/promotional materials involving the project must acknowledge SSC funding. How will you bring awareness and publicize the project on campus? In addition to SSC, where will information about this project be reported? *

Class tours are a regular event at the Energy Farm, in addition to community outreach events, politicians, and academia. This newest addition to the Energy Farm will continue to widen the range of sustainability and renewable energy demonstrations in a single location. Multiple projects on each tour have significant SSC funding and the acknowledgement of that contribution is highlighted while discussing each project.

Signage for the Agrivoltaics project would be placed by the arrays with proper acknowledgement of the support and contributions by the Student Sustainability Committee.

Finally, full funding of this project would allow for real time production data to be funneled into F&S utilities database and the iCAP portal which summarizes all major solar generation on campus.

12. Other than the project team, who will have a stake in the project? Please list other individuals, groups, or departments affiliated directly or indirectly by the project. This includes any entity providing funding (immediate, future, ongoing, matching, in-kind, etc.) and any entities that benefit from this project.


Please attach letters of commitment or support below *

There are several stakeholders that have provided funding to date which provided the initial engineering design, ground posts, mounting frames, and solar frames, including iSEE, SCAPES, F&S, USDA, and Crop Sciences. These groups coming together allowed for a successful year in 2023 for studying plant growth under the solar shaded areas.

Summary Invested to date:

- Foundation Piers – \$28,000
- Solar Frames (3) \$9950
- Panels (estimated cost to purchase if not donated \$12,000)
- Panel / equipment removal for relocation to Energy Farm (F&S)
- Engineering design / testing \$5816
- TOTAL \$43,763

13. Please attach any letters of commitment or support here along with any other supplemental media that will support your application (presentations, pictures, etc.)

 [Agrivoltaics Presentation to SSC 092823 Tim Mies.pdf](#)

 [PROJ-7826 PRPSL EBI SOLAR ARRAY PROPOSAL 2023 Tim Mies.pdf](#)

 [1267 EBI Solar Array_IFP w comments 091423 Tim Mies.pdf](#)

 [UPS Statement Tim Mies.pdf](#)

14. How does this project impact environmental and social justice? 250 word max *

Agrivoltaics investigates the food vs fuel conflicts as solar farms become more prevalent, helping to identify potential ways solar and agriculture can coexist. This coexistence could help to offset otherwise displaced food production.

Second, the solar energy produced will be a carbon free as to not contributing to climate changes which can have large impacts on marginalized communities.

15. Where is the project located, does it require Facilities and Services permissions? *

Energy Farm, 4110 S. Race St, Urbana, IL. Part of the University South Farms

16. Is this project student led? *

☐ Yes

☒ No

17. If applicable, have you received approval from Facilities & Services and/or site manager? *

☒ Yes

☐ No

☐ N/A

18. Do you have a plan for ongoing funding beyond SSC? (SSC does not guarantee ongoing financial support) *

☒ Yes

☐ No

19. Beyond SSC, do you have sources contributing funding or support (ex. staff time, external grants, etc.) to this project? *

☒ Yes

☐ No

20. Have you applied for SSC funding previously? *

☒ Yes

☐ No

21. Project Timeline:

(SSC funding agreements remain active for two years. List your project's proposed end date.) *

Construction starting Spring 2024 and complete May 2024

22. Provide a detailed project description:

(In 400 words or less, describe your project. What does your project hope to accomplish? What are your project's deliverables?) *

This Agrivoltaics project started out in early 2023 with the goal of creating shade on agricultural crops to meet researchers needs, but funding was only available to erect the structure and create the shade. A complete project, if funded, will purchase equipment and labor to connect the panels back to the campus grid.

The solar panels for this project were previously supplying electricity as part of a research project that had come to completion at the Research Building Council on campus. When the decaying building supporting these panels was razed, the Energy Farm jumped at the opportunity to repurpose / recycle these panels for our new research project.

When complete, solar electricity production will be expanded on the Energy Farm. Metering installed would match campus standards for data collection, allowing a consistent record of production in alignment with the other solar and renewable projects available on the iCAP portal as part of the overall campus carbon action plan.

Though it would not be financially available at the time of construction, we have taken initial steps to apply for tax rebate that potentially could return 6% to 30% of this project. If received, these credit funds would be funneled into future iCAP focused project.

23. Environmental Impact:

(In 200 words or less, how does your project increase environmental stewardship at UIUC? If applicable, what is the carbon, water, waste, and/or energy savings?) *

This project can be closely tied to another renewable energy project currently underway, a geothermal test / demonstration system which started construction Spring 2023. The geothermal project is replacing a propane based HVAC system for the Energy Farm office space. The propane fossil fuel will be eliminated, with electricity as the energy needed for the geothermal heating/cooling system. By connecting the 15kw solar array to the campus grid, the Energy Farm can provide electricity in excess of what the geothermal system needs. Both of these projects can jointly develop a kiosk / web display tying the performance of both systems together.

24. iCAP Objective Correspondence:

(In 200 words or less, does your project aim to advance one or more of the Illinois Climate Action Plan's (iCAP) objectives? If so, how?)

A full list can be found here: <https://icap.sustainability.illinois.edu/objectives>

This project is in direct support of the iCAP objectives to increase low / zero carbon energy on campus through the use of solar electricity generation.

25. Student Impact:

(In 200 words or less, how will this project benefit students? How will students be involved with this project? What educational components are in your project?) *

Summer student employees and graduate students were already able to participate actively in the construction of these frames and panels. Most of the students had never used most of the tools used in construction of these solar arrays. Moving forward data generated from this setup will allow students and classes to utilize real time data in their studies and class projects.

Project Finances

26. See attached file, please be very descriptive and fill out the finalized budget and timeline Excel sheet, and submit it below.

<https://studentengagement.illinois.edu/student-sustainability/ssc/docs/SSC-Supplemental-Budget-Timeline.xlsx>

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Supplemental Budget Agrivolt Tim Mies.pdf

27. Project Finance Manager.

Must be a fulltime UIUC faculty or staff member** *

Phiavanh Sengsavanh

28. Finance Project Manager Department *

Crop Sciences

29. Project Finance Manager University Email *

piaseng@illinois.edu