

View results

Respondent

17 Aman Mehta

01:33

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 an SSC working group meeting? If not, please attend an SSC Working Group and present your project. Once working group attendance is complete, please return to complete your application.

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

*

Yes

No

2. Please enter the date of the working group meeting you attended. As a reminder, the working group meetings are structured as follows

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

*

10/12/2023

3. Date of Application *

10/12

4. Project Name: *

Development of an Inexpensive Solar Water Heater

5. Total Funding Requested From the SSC. *

800

Please enter a number less than or equal to 10000

6. Project Lead Full Name: *

Aman Mehta

7. Project Lead University Email Address *

amanm2@illinois.edu

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

I am developing a solar water heater that can use solar energy to heat up enough water (~10 liters or 3 gallons) for a warm shower. Getting access to hot water in underdeveloped areas is a prominent challenge and the potential of implementing net-zero heating solutions is very high. Current methods of heating water include burning wood or dry mass and this is a solution that attributes to a lot of emissions. It is often the women and children in these areas who source solid fuel in the forests and there are attributed risks associated to it.

9. Project Category *

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

All rolling application require a faculty/staff advisor.

Faculty and Staff Advisor

10. Full Name: *

Elif Ertekin

11. RSO/Department *

Mechanical Engineering &

12. University Email Address: *

ertekin@illinois.edu

13. Do you have additional members? *

- Yes
- No

UIUC Financial Contact

Financial Contact (Must be full-time UIUC employee)

14. Full Name: *

15. RSO/Department *

16. University Email Address: *

Project Questionnaire:

17. Is this project student led? *

- Yes
- No

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

- Yes
- No
- N/A

19. If additional funding is required, do you have a plan for ongoing funding beyond SSC? (SSC cannot guarantee ongoing financial support) *

Yes

No

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

Yes

No

21. Have you applied for SSC funding previously? *

Yes

No

22. Project Timeline:

(SSC funding agreements remain active for two years. List your project's timeline and major milestones.) *

(All dates are referring to the time from which the funding will be received).

Development of the Solar Cooker over the next 5-7 weeks:

1. Design Development: 1 week (Already Done)
2. Material Acquisition: 1 week
3. Prototyping: 1 week
4. Testing and Refining: 3 weeks
5. First Use Case: 1 week

23. Project Description:

(In 250 words or less, describe your project. What does your project hope to accomplish? What are your project's deliverables?) *

The project hopes to accomplish and develop a small portable Solar Cooker. The aim of this project is to develop an inexpensive Solar Cooker that underdeveloped communities around the world can use to heat up water. This is the first part of the project, the second half of the project will include testing and deploying the solar cooker in these communities.

24. 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 aims to develop said solar cooker and the technology can then be scaled up and used for water heating applications at UIUC. This will lead to several energy savings because we are using renewable sources to heat up water. The heat would have otherwise been accessed from the Abbott Power Plant to heat up water or from electricity.

Through this project, I will aim to quantify the energy savings to heat up a few gallons of water and propose better/more refined technologies to the university that can be implemented on a larger scale for clean hot water generation.

25. 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 directly targets the following iCAP objectives:

1. Increase Energy Efficiency (2.2)
2. Improve Space Utilization (2.2.1)
3. Reduce Building-Level Energy (2.2.2)
4. Clean Energy Sources (2.3)
5. Clean Thermal Energy (2.3.2)

26. 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?)

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This a self-started project. Currently, only I am involved in the project, with the hope of bringing more people on for assembly in the next few weeks.

This project also hopes to spread information about using the solar cooker in a few underdeveloped locations around the world where. The project can be featured in the iSEE newsletters/magazines to inspire other students to take on such projects and help underdeveloped communities access clean and reliable energy.

27. Please see attached file, please be very descriptive and fill out the 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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 [SSC-Supplemental-Budget-Timeline - Solar Cook Aman Mehta.xlsx](#)