

View results

Respondent

6

BILL Waltz

18:56

Time to complete

ACKNOWLEDGMENT

1

Please read and acknowledge the following:

- SSC funding can take ****1 MONTH OR LONGER**** to receive after the SSC has voted to approve a project because it includes several steps:
 - the authorization of an award letter by SSC, iSEE, Division of Student Affairs, the project's advisor (*student-led projects only*), and the project lead;
 - the creation of the CFOP by the project team's departmental financial contact in conjunction with the project team;
 - the transfer of funds from SSC to the project's CFOP.
- If you are a project lead for a new project that is approved by the SSC, be sure to check your email regularly for the prompt to sign the award letter to help facilitate the efficiency of the process.
- Project teams for funded SSC projects do NOT receive funds directly. After a project's SSC funds have been transferred to the project's CFOP, the project team must work with the sponsoring department to purchase the approved budgeted items on behalf of the project team.
- This application will be shared publicly on our SSC Illinois Climate Action Plan (iCAP) portal so that others can learn from your project.
- Funded projects have grant reporting requirements. See our website for more information.

*

☒ I acknowledge that I have read this information.

APPLICATION INSTRUCTIONS

Prior to starting your application, make sure you have the following information available:

- Project personnel including project lead, confirmed faculty/staff advisor (*student-led projects only*), departmental financial contact, other team members
- Working Group attendance information
- Project title and abstract
- Project description including timelines, deliverables, detailed description about the project, project feasibility information
- Intended student impacts
- Intended sustainability impacts
- Optional supporting documentation (e.g., Working Group presentation, letters of support)
- Detailed project budget information
- Information about changes to the Step 2 application submitted compared to the Step 1 application submitted

See our website for a sample application: <https://studentengagement.illinois.edu/studentsustainability/illinoisgreenfund/funding>

2

Today's Date *

4/18/2025



3

A follow up project presentation at a SSC Working Group meeting is *occasionally* requested of a project team prior to submitting their Step 2 application. Did someone from the project team present updates to their originally proposed Step 1 project at a SSC Working Group meeting this semester?

*

☒ YES

☐ NO

4

Select the Working Group meeting you attended. *

- ☒ Energy + Transportation & Infrastructure Working Group Meeting
- ☐ Food & Waste + Land, Air, & Water Working Group Meeting
- ☐ Education & Justice Working Group Meeting

5

Date of the Working Group meeting you attended. *

4/3/2025



6

What is the name of your project? *

Illini Solar Car - Project D

7

Amount of funding requested from the SSC for this project *

The amount entered here must match the amount reflected in your detailed primary budget spreadsheet that you will be prompted to submit with this application.

\$129,479.00

PROJECT DESCRIPTION

8

Project Category *

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

9

Project Abstract *

In approximately 100 words, describe your project.

Illini Solar Car is a multidisciplinary engineering design RSO that designs, builds, tests, and races road-legal solar electric vehicles in cross-country competitions. We compete against other similar teams in hopes of bettering the efficiency, endurance, and practicality of solar-powered vehicles. Our team is currently working on "Project D," which is our fourth-generation solar-powered race car. We hope to construct a faster, more efficient car, which we will race in the 2026 American Solar Challenge and 2027 World Solar Challenge.

10

What key changes are reflected in your Step 2 application compared to your Step 1 application, if any, and why? *

We clarify that we are, indeed, an RSO, and we explain how our retired cars are reused.

11

Describe your project in detail. Ensure the SSC has sufficient details to be able to evaluate the merits and feasibility of this project. *

Be sure to address the following:

-What are your project's goals and how do you intend to accomplish them?

-What are your project's deliverables?

Illini Solar Car is a multidisciplinary student-led team that designs and builds road-legal solar-electric vehicles for the Bridgestone World Solar Challenge and American Solar Challenge. The team's goal, in a larger sense, is to build the world's best solar-electric vehicle as a testament to the potential of sustainable technology and the future of engineering innovation. In our team's history, we have successfully developed and raced three vehicles: Argo, Brizo, and Calypso. After traveling over 1,500 miles, our most recent vehicle, Calypso, placed 4th overall with the 3rd most miles driven in the 2024 American Solar Challenge. After this spectacular success, our current goal is to design and manufacture a new, fourth-generation vehicle to race in the 2026 American Solar Challenge and the 2027 Bridgestone World Solar Challenge. These races are at the forefront of sustainable innovation, and the fierce competition demands teams to put their best foot forward. Another goal of this project is to provide an opportunity for students to experience a professional work environment. Through the designing and manufacturing of the car, students learn to hone their engineering and manufacturing skills on a tangible product. The interdisciplinary learning across our four different subgroups, electrical, mechanical, strategy & telemetry, and business & marketing, gives students a glimpse into how these workforces operate in their respective fields in the real world. Calypso will race for the final time this summer in the 2025 Formula Sun Grand Prix and will then be retired after the competition. However, the vehicle will continue to be used for outreach, raising awareness, and inspiring sustainable innovation for many years. As we build our new car in the future, "Project D," we will continue to promote innovative engineering & entrepreneurial education, push the boundaries of sustainable energy, and teach others in the community the extent of what renewable technologies are capable of.

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List your proposed project's timeline and major milestones. *

NOTE: SSC funding agreements remain active for two years. Thus, your timeline should reflect your activities over a two year period or less.

Members of our team have been meeting weekly for the past six months to discuss the details of the design of this fourth-generation vehicle, Project D. We have already designed many of our mechanical (suspension, rollcage, and body) parts and much of the electrical system, including a completed battery box assembly. While we are attempting to get some of these parts sponsored, the team has put Project D on hold to work on preparing Calypso for racing this summer. Once we know which of our parts can be sponsored, around May 2025, we will begin the manufacturing and assembly of each of the vehicle components, as well as design the livery. Then, we will take a break from manufacturing to race Calypso in the 2025 Formula Sun Grand Prix. After the race, around August 2025, we will continue to work on electrical and mechanical integration. During this time, we will also wrap the car and apply the livery. Once both the electrical and mechanical systems are integrated in the car, around September 2025, we will begin troubleshooting each of the systems. We are currently targeting January 2026 to have all systems fully operational, allowing the team to test the vehicle extensively and make all necessary changes to improve operational reliability. Project D should be fully operational before Spring Break 2026, allowing the team plenty of time to undertake in-depth test drives to enable new drivers to become accustomed to the new vehicle and reduce downtime while competing in the Bridgestone World Solar Challenge 2026.

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Have you spoken with anyone in UIUC's Facilities & Services (F&S) department regarding the feasibility of your project? *

NOTE: While this step is optional for many projects, all projects involving infrastructure (e.g., internal or external physical infrastructure of university buildings, etc.) or grounds (e.g., plantings, installing structures on campus grounds, etc.) must have F&S approval prior to receiving SSC funding. If you need assistance evaluating the feasibility of your proposed project, please reach out to SSC-Advisor@illinois.edu PRIOR to submitting your application.

- ☐ YES
- ☐ NOT YET
- ☒ N/A

STUDENT IMPACTS

14

How many students will be directly impacted by this project? *

Over 350 students on the team will be impacted by this project, as they will be exposed to both the engineering and the non-engineering aspects of a team that designs, builds, tests, and races solar-powered vehicles.

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How many students will be indirectly impacted by this project? *

Our project will indirectly impact a few thousand students attending our outreach events (Green Quad Day, Sustainapalooza, Engineering Open House, Chicago Auto Show). Even though they are not a part of the team, they will learn about the work we do through one-on-one discussions. During our last project, we reached out to speak to a few hundred students at Edison Middle School on the topic of sustainable engineering, inspiring a new generation of future sustainable engineers. We hope to visit many more schools throughout the lifecycle of our newest vehicle to increase awareness among the youth in our community. Those few thousand who follow our social media, such as Instagram, will also see the continued advancements of solar-powered technology from year to year, as the cars at Formula Sun Grand Prix, American Solar Challenge, and Bridgestone World Solar Challenge continue to get faster and travel farther.

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What is the intended student impact? *

Be sure to address the following:

-How will this project benefit students?

-How will students be involved with this project?

-What educational components are in your project?

Illini Solar Car provides unparalleled experiences for our students. Members of the team solve real-world problems and apply their education to hands-on projects by working with advanced, industry-standard hardware and software. We provide our members with the opportunity to develop their skills and prepare for future careers. As a team, we are committed to engaging students across disciplines with the same passion for sustainable thinking and innovation, regardless of major, experience level, or technical ability. We are enthusiastic about teaching everything our members need to know to be successful team members in our comprehensive onboarding process. This fall, we attracted more than 800 students to our information sessions, and a large portion completed onboarding. Our team is proud to be fully student-led and managed across all disciplines, including in races.

The races we participate in are unique opportunities for our members to prove their skills. Our team engages in two different styles of racing: a closed track circuit race and a cross-country endurance road race. Both styles challenge us to develop unique racing strategies and work together as one team. Since our first race in 2017, our team has established ourselves as a top competitor. We most recently raced in the 2024 Formula Sun Grand Prix (FSGP) and 2024 American Solar Challenge (ASC) against the best teams in the nation. We drove over 1,500 miles, the third most miles driven in the competition, and placed 4th overall. Race team members develop their problem-solving skills under high-pressure situations and grow their interpersonal skills by working closely with others for an extended period of time.

Working on our vehicles gives our members an incredible advantage in regard to projects and hands-on experiences. Recent team alumni have found jobs at Ford Motor Company, John Deere, Apple, NASA, Northrup-Grumman, SpaceX, Texas Instruments, Tesla, and many other prestigious companies.

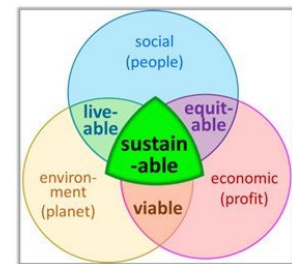
Finally, this project may inspire hope in students (not necessarily of UIUC) to look forward to a future in clean energy by demonstrating the ability of solar power.

SUSTAINABILITY IMPACTS

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Authentic sustainability consists of the overlapping area of 3 spheres: Environment, Society, and Economy.

Describe how your project addresses sustainability. *



Illini Solar Car addresses sustainability in several ways. The most important area sphere for the team is the environmental factor which we constantly take into consideration. Our project thrives on the idea that we can build a vehicle that travels thousands of miles without the use of fossil fuels and natural gasses. At the heart of our team, we care deeply about the environment and are doing our part to create a cleaner, green future. As an organization, we require ourselves to reuse as much material as possible: we reuse mold bases, we utilize expired carbon fiber, and we have even donated our retired vehicle to help start-up Texas A&M's solar car team so that they can continue on our legacy of sustainable design. Socially, we promote sustainability through our operations and events. We not only provide our members with various opportunities to nurture a lifelong interest in sustainability and engineering, but we further advance these principles by presenting at outreach events, including local schools, such as Edison Middle School, and University events, such as Sustainapalooza and Engineering Open House. We also have a significant fan base through external sources, including social media platforms. Finally, economically, we take steps to ensure we are financially viable; throughout our build cycle, we contact various companies and ask for unused materials, such as carbon fiber, for us to recycle within our vehicles, ensuring a steady flow of construction materials.

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How does your project promote and increase environmental stewardship at UIUC? *

If applicable, also address what the carbon, water, waste, and/or energy savings is associated with your project.

Illini Solar Car promotes and increases environmental stewardship at UIUC in various ways. We inspire our members to work with environmentally sustainable technologies and provide them with experiences that will be useful in their future endeavors. We also promote sustainability through outreach events, especially those connected with the university, such as Quad Day, Engineering Open House, and the Homecoming Parade. Additionally, by competing in competitions and allowing the University to be actively involved in the process, we allow for a much larger audience to be involved and educated. In terms of carbon savings, the team relies on a completely solar-powered design, eliminating all carbon emissions and greatly benefiting the environment.

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Does your project aim to advance one or more of the Illinois Climate Action Plan's (iCAP) objectives? If so, indicate which and describe how. If not, enter N/A.

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

2.3 Clean Energy Sources - The publicity of our team's cross-country races, paired with the emphasis on solar power, promotes the idea of a realistic future of clean energy.

3.3 Electric Vehicle Task Force - A fundamental aspect of Illini Solar Car is building an electric vehicle. Our team focuses on championing a future of electric, extraordinarily efficient vehicles.

6.1 Broaden Sustainability Education - One of the goals of Illini Solar Car is to emphasize innovations in sustainability and forward-thinking. The team helps to educate over 300 students from across the university on matters such as designing and building sustainable technologies. The project is also part of several sustainable outreach efforts, interacting with young students from local middle schools, the general public, and the campus community through events such as Engineering Open House and Green Quad Day. We also attended the Chicago Auto Show earlier this year, attracting thousands of visitors and educating them about the technology used in our vehicles. Through these events, we seek to promote and utilize sustainable energy and inform the public about the potential impacts of solar energy on our environment.

6.2 Sustainability Course Catalog - Beyond providing our members with experience, Illini Solar Car administers the ECE 217 course, which, through our advisor, explores the methods of building and driving a solar vehicle and includes sustainability-focused topics such as solar panels, power system optimization, aerodynamic efficiency, and battery usage.

PROJECT LEAD

20

Project Lead's Full Name *

Brooke Mickey

21

Project Lead's Department *

MechSE

22

Project Lead's University Email Address *

bmickey2@illinois.edu

23

The Project Lead must be a UIUC faculty, staff, or currently enrolled student. Which category describes the Project Lead's primary role at the university? *

- ☒ Currently enrolled UIUC student
- ☐ UIUC faculty
- ☐ UIUC staff

FACULTY/STAFF ADVISOR

A Faculty/Staff Advisor is required for all student-led projects. Project teams must obtain confirmation from faculty/staff PRIOR to listing them as the advisor for the project.

24

Faculty/Staff Advisor's Full Name *

Arijit Banerjee

25

Faculty/Staff Advisor's Department *

ECE

26

Faculty/Staff Advisor's University Email Address *

arjit@illinois.edu

PROJECT'S FINANCIAL CONTACT

The project's Financial Contact must be a full-time Illinois employee who has the authority to make university purchases, manage the project's financials, and generate financial reports on behalf of the project.

27

Financial Contact's Full Name *

Bev Curtis

28

Financial Contact's Department *

ECE

29

Financial Contact's University Email Address *

bcurtis@illinois.edu

30

Are there additional members of your project team? *

☒ YES☐ NO**ADDITIONAL TEAM MEMBER**

31

Team Member's Full Name:

Grayson Pacourek

32

Team Member's Department/Campus Affiliation:

MechSE

33

Team Member's University Email Address:

gp20@illinois.edu

34

Do you have additional team members? *

☒ YES☐ NO**ADDITIONAL TEAM MEMBER**

35

Team Member's Full Name *

Bill Waltz

36

Team Member's Department/Campus Affiliation *

ECE

37

Team Member's University Email Address *

wwaltz2@illinois.edu

38

Do you have additional team members? *

☒ YES☐ NO

ADDITIONAL TEAM MEMBER

39

Team Member's Full Name: *

Matthew Adler

40

Team Member's Department/Campus Affiliation: *

Physics

41

Team Member's University Email Address: *

mtadler2@illinois.edu

SUPPORTING DOCUMENTATION

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OPTIONAL: Attach any letters of commitment or support here along with any supplemental media that will support your application (presentations, photos, etc.).

 Short.JSC Gallery.BILL Waltz.pdf

PROJECT FINANCES

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Describe in detail how SSC funds will be used in your project.

NOTE: Only address the use of SSC funds, specifically, even if the project will be funded by multiple sources.

If fully funded, SSC Funds will be used for purchasing materials for, and manufacturing of, our roll cage, our shell, our monocoque, our battery, our suspension, our steering wheel, and some PCBs.

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If you receive SSC funding, will your project require additional sources of funding to achieve your project's overall goals? *

NOTE: SSC cannot guarantee financial support beyond that provided in an approved funding agreement.

☒ YES

☐ NO

45

Do you have a plan in place for obtaining additional funding from other sources? *

☒ YES

☐ NOT YET

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Has your project team or department previously been awarded funding from the SSC for the same or a similar project? *

☒ YES

☐ NO

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What is the total amount of SSC funding received to date for the same or a similar project by the project team/department submitting this application? *

The Student Sustainability Committee has funded Illini Solar Car for many build cycles throughout the years. We first received SSC funding: in Spring 2015 for \$3,295, in Fall 2015 for \$4,913, in Spring 2016 for \$41,275, in Fall 2019 for \$35,500, in Fall 2020 for \$3,500, in Fall 2021 for \$15,000, in Fall 2023 for \$62,000, and in Fall 2024 for \$100,425.58.

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Download, complete, and submit the **SSC-Budget-Timeline_NEW APPLICATION_template** file linked below. Please be very detailed so that the SSC can fully evaluate the merits of your funding request. **We STRONGLY recommend providing alternate budgets in addition to your main budget in case SSC cannot fully fund your project. There are alternate budget tabs in the template.**

<https://studentengagement.illinois.edu/sites/default/files/2024-09/SSC-Budget-Timeline-NEW-APPLICATION-template.xlsx>

*



SSC-Budget-Timeline-SP25_BILL_Waltz.xlsx