



STUDENT SUSTAINABILITY COMMITTEE

Funding Application – Student-Led Projects (Under \$10K)

Funding Criteria

A. General Rules

1. Students, faculty, and staff are encouraged to submit requests for funding. Student-led projects require a faculty or staff sponsor in order to have funds awarded.
2. Funding can only go to university-affiliated projects from students, faculty, staff, and departments.
3. All SSC projects must make a substantial impact on students. This may be a direct impact or an impact through education and engagement. All SSC funding is 100% from student green fees, so the projects funded by the students must benefit them.
4. SSC encourages innovation and new technologies – creative projects are encouraged to apply.
5. Unless a type of expense is specifically listed below as having restrictions, SSC can generally fund it. The items referenced below should not be taken as comprehensive list.

B. Things SSC Can Fund, On A Case-By-Case Basis

1. SSC can fund feasibility studies and design work; however, it must work toward ultimately addressing a sustainability need on campus.
2. SSC can fund staff positions that are related to improving campus sustainability. Strong preference will be given to proposals receiving matching funding from departments and/or plans for maintaining continuity of the position after the end of the initial grant.
3. SSC can fund outreach events with a central theme of sustainability, provided their primary audience is the general campus community.
4. SSC discourages funding requests for food and prizes but will consider proposals on a case by case basis that prove significant reasoning.
5. SSC can fund repairs and improvements to existing building systems as long as it works toward the goal of improving campus sustainability; however, a preference is shown to projects utilizing new or innovative ideas.
6. SSC can provide departments with loans for projects with a distinct payback on a case by case base. Loans will require a separate memorandum of understanding between SSC and departmental leadership pledging to repay the award in full and detailing the payback plan.

C. Things SSC Will Not Fund:

1. SSC will not fund projects with a primary end goal of generating revenue for non-University entities.
2. SSC will not fund personal lodging, food, beverage, and other travel expenses.
3. SSC will not fund any travel expenses.
4. SSC will not fund tuition or other forms of personal financial assistance for students beyond standard student employee wages.

Your funding application should include this application and any letters of support.

Please submit this completed application and any relevant supporting documentation by the deadline listed on the SSC website to Sustainability-Committee@Illinois.edu. The Working Group Chairs will be in contact with you regarding any questions about the application. If you have any questions about the application process, please contact the Student Sustainability Committee at Sustainability-Committee@illinois.edu.

General & Contact Information

Project Name: Eco Illini Tools and Outreach Events

Total Amount Requested from SSC: 10,000

Project Topic Areas: Land & Water Education Energy
 Transportation Food & Waste

Applicant Name: Vineet Patel

Campus Affiliation (Unit/Department or RSO/Organization): Eco Illini

Email Address: vnp3@illinois.edu

Check one:

This project is solely my own **OR**

This project is proposed on behalf of (name of student org., campus dept., etc.): Eco Illini

Project Team Members

| Name | Department | Email |
|-----------------|------------|-----------------------|
| Vineet Patel | Eco Illini | Vnp3@illinois.edu |
| Graham Campbell | Eco Illini | Grahamc3@illinois.edu |
| Arjun Shah | Eco Illini | arjunrs3@illinois.edu |
| Jonah Garland | Eco Illini | jonahmg2@illinois.edu |

Student-Led Projects (Mandatory):

Name of Faculty or Staff Project Advisor: Professor Philpott

Advisor's Email Address: mphilpot@illinois.edu

Financial Contact (Must be a full-time University of Illinois staff member)

Contact Name: Sarah Power

Unit/Department: Mechanical Engineering

Email Address: sfpower2@illinois.edu

Project Information

Please review the proposal materials and online content carefully. It is highly recommended you visit a working group meeting sometime during the proposal submission process.

Please provide a brief background of the project, its goals, and the desired outcomes:

We want to know: What is your project? What does it concretely produce, accomplish, or solve? Why is this project needed on campus?

Eco Illini Supermileage is a student design team that competes twice a year to design and build the most efficient vehicle possible. We currently hold the school records for most efficient gasoline and battery-electric vehicle with 1137 MPG and 152 Mi/KWh respectively. Designing, developing, and constructing these complex supermileage vehicles requires a plethora of modern tools.

Outreach is an important aspect of our organization, and we are continually finding new ways to continue to promote a sustainability and an efficiency-focused mindset in engineering. To pursue this, we teach students on campus how to use advanced tools and techniques in order to inspire them to design, develop, and construct more sustainable and efficient systems and impact their future careers. We also focus on exposing others on campus to the benefits of sustainable engineering through outreach events.

The tangible goal of this project will be to host a driving day with our new vehicle and the equipment we have purchased. We will invite members of the community including other SSC clubs and other vehicle teams.

Where will the project be located? Are special permissions required for this project site?

If special permission is required for this location, please explain and submit any relevant letters of support with the application. SSC cannot fund projects without prior location approval.

Our team works out of the ESPL which has some great opportunities for students to become safety-certified on advanced tools. However anyone can tour this space with no special permissions needed, allowing us to continually outreach to more individuals. We would happily host tours to visitors when we meet project milestones.

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 at the end of the application.

Our team will have around 60 undergraduate students who will be working with these advantageous tools and helping with outreach. Beyond that, we work closely with the Mechanical Engineering department and College of Engineering for university related objectives. Our team receives funding from several university departments, as well as corporate sponsorships, including both in-kind and immediate cash donations.

The main benefactors of this project would be the students, who gain experience in sustainability focused engineering. Additionally, the campus will benefit by gaining insight and opportunities to help promote sustainability.

How will this project involve and/or benefit students?

This includes both direct and indirect impact.

All students using these tools to work on our projects will gain real-world engineering experience. These tools will provide every student with the opportunity to learn how to use them to take on challenging problems outside of the classroom. Beyond that, students will be inspired by the challenge of efficiency and sustainability, which will stay with them for their entire career.

Furthurmore, with the extra efforts in outreach on campus, Eco Illini can serve as a larger entry point into sustainable engineering for many students. We can use this to inspire these students to consider sustainable mindsets regardless of what they pursue later in their career.

What are your specific outreach goals? How will this project inspire change at UIUC?

The outreach goals of this project are to highlight what is possible in energy efficiency. We often attend events like Green Quad Day, EOH, Robot Day and others to highlight our projects. This project will produce more advanced and efficient vehicles to demonstrate potential in sustainable engineering. Additionally, with more tools to improve outreach efforts, we can enhance the demonstration experience and better promote what Eco Illini Supermilage is about. For instance, an electric high-power station mentioned in the Budget Document will allows us to showcase our vehicles outdoors in a more sustainable way when compared to a gasoline generator. We will also use this to improve our vehicles by powering equipment during outdoor vehicle testing days.

As mentioned in the project information we also plan on hosting at least 1 drive day to showcase our car to the community. It will hopefully highlight the potential of energy efficient transportation. We will also have the new equipment at the event including the new electric high-power station to reduce our dependence on generators.

Beyond Campus we will compete in two national competitions on behalf of UIUC. The first, Shell Eco Marathon, is an international efficiency competition including tens of teams from across the Americas. The other is Quebec City Supermilage, which is a similar competitions, but is limited to North American countries. At these competitions, we aim to demonstrate the success of student designs and to represent UIUC as a hub for sustainable engineering. With the more capabilities from using the requested tools, we can effectively produce vehicles that will place higher at these competitions, improving our school records, and further spreading the university's reputation for sustainability.

How will the project improve environmental sustainability at the Urbana-Champaign campus?

The goal of this project is to improve the design, manufacturing, and outreach capabilities of Eco Illini. This will help better highlight the potential of engineering in sustainability. With current tools and outreach efforts, Eco Illini has developed super-efficient vehicles such as our fourth vehicle, which has the record of 1137 MPG: enough to take a vehicle from Chicago to Orlando on one gallon of fuel. Also, we recently made our fifth vehicle with an electric drivetrain, making it even more efficient and completely zero emmissions.

However, there is much room for improvement. The current world record is well over 3000 MPG, and to remain competitive, we need to improve the quality of our work. This project will help propel Eco Illini's ability to design such vehicles, and by improving our results we will inspire our members and those around us to focus more on sustainability and efficiency by showing what is possible. We also hope that with better tools for our use, we can better involve our members and prepare them for the future, where they will continue their focus on engineering sustainability.

If applicable, how does this project impact environmental injustice or social injustice?

NA

Scope, Schedule, and Budget verification

What is the plan for project implementation? Describe the key steps of the project including the start date, target completion date, target date for submitting a final report, and any significant tasks or milestones.

Please be as detailed as possible.

The Goal of this project is to purchase necessary tools to help construct and develop our current and future vehicles. These tools would be immediately used for our vehicles G6 and G5e which we will bring to competition in April and June respectively. Additionally, we will immediately purchase the tools for improving our outreach events, so we can use them for all upcoming sustainability events this semester and for many semesters to come.

List all budget items for which funding is being requested. Include cost and total amount for each item requested.

Please be as detailed as possible.

See Attached Budget Document

If the project is implemented, will you require ongoing funding? What is the strategy for supporting the project in order to cover replacement, operation, or renewal costs?

SSC provides funding on a case by case basis and should not be considered as an ongoing source of funding

We will be able to source ongoing funding for ourselves. We currently receive annual funding for a portion of each individual vehicle from various departments on campus, as well as routine corporate sponsorships.

Please include any other obtained sources of funding. Have you applied for funding elsewhere?

Please attach any relevant letters of support as needed in a separate document.

We have received funding elsewhere. Beyond individual company sponsorships, we also receive funding from Engineering Design Council. We are also constantly on the lookout for corporate sponsorships to help support our team. Some previous donations we've received have come from Caterpillar, Milwaukee, John Deere, General Motors, etc.

Have you applied for funding from SSC before? If so, for what project?

Yes. We previously applied for funding for our vehicles called G5e and G6. We have completed design and construction of G5e. For G6, we have finished the design, and we are currently building the vehicle in time for competition in April. Many of the tools requested will assist us in G6's construction.

How will you bring awareness and publicize the project on campus? In addition to SSC, where will information about this project be reported?

We routinely attend multiple outreach events and competitions with our team. You can see us at events like Quad Day, Green Quad Day, E-Nite, Robot Day, and EOH. We will also compete at Shell Eco-Marathon and Quebec City Supermileage on behalf of UIUC. We document progress on our social media as well as in occasional articles published by the University Mechanical Engineering department. We have weekly development update meetings at ME199 DES.