



STUDENT SUSTAINABILITY COMMITTEE

Funding Award and Acceptance Letter

December 9th, 2022

Project: **Illini Formula Electric SiCVerter & Powertrain**

Dear **Akash Chandra**,

On behalf of the University of Illinois at Urbana-Champaign Student Sustainability Committee (SSC), we would like to thank you for initiating a project that improves the sustainability of our campus. SSC is pleased to inform you that your project will receive **\$100,000.00** in grant funding.

In order to remain eligible for this award, you must agree to the following conditions:

1. The project must be completed within two years. A final report of all work completed should be provided to the SSC Assistant Director by **December 9th, 2024**.
2. Project status updates and detailed account statements must be provided at the end of each semester, in the method requested, until the project is completed.
3. The Contact Person will be individually responsible for all official communication and the execution of this agreement.
4. The awardee will take the appropriate steps to create a CFOP with OBFS UAFR University Accounting Services. The CFOP provided for this award shall strictly be used for the money awarded in this proposal.
5. Any substantial modifications to project scope, budget, or timeline must first be approved by SSC. These requests must be submitted in a formal letter to the Chair and the Assistant Director.
6. All projects will be expected to follow campus policies and procedures as well as any applicable State and Federal laws.
7. SSC reserves the right to revoke funding if the project does not comply with the terms and conditions outlined in this letter.
8. Any press releases or educational/promotional materials involving the project should acknowledge SSC funding.
9. Any signage involving the project or events surrounding this project should include SSC's logo and/or a statement of which fee funded the project. Projects must coordinate with SSC to ensure promotion appropriately highlights the SSC's contributions to the project.

If you agree to the terms and conditions for the funding, please sign on the designated line at the bottom of this letter. If you have any questions regarding these requirements please contact the SSC, at sustainability-committee@illinois.edu. You will be notified when the Institute for Sustainability, Energy, and Environment and Vice Chancellor for Student Affairs officially approves this project. Again, thank you for your interest in improving the sustainability of the University of Illinois at Urbana-Champaign. We look forward to working with you in the future.



STUDENT SUSTAINABILITY COMMITTEE

SSC Signatories

Jack Reicherts

Jack Reicherts, Chair
Student Sustainability Committee

Awardee Signatory

Achandra

Akash Chandra
Applicant

**Faculty or Staff Project Advisor
(for Student-Led Projects)**

Michael Philpott

Dr. Michael Philpott
Faculty/Staff Project Advisor

iSEE Signatory

Madhu Khanna

Dr. Madhu Khanna, Director
Institute for Sustainability, Energy & Environment

Student Affairs Signatory

Dr. Danita M.B. Young

Dr. Danita Brown Young, Vice Chancellor
Division of Student Affairs



STUDENT SUSTAINABILITY COMMITTEE

Project Information

Project: Illini Formula Electric SiCVerter & Powertrain

Funding Source:

Cleaner Energy Technologies Fee (302571)

Sustainable Campus Environment Fee (303692)

Funding Amount: \$100,000.00

Receiving Campus Unit: Mechanical Science and Engineering

Unit Financial Contact: Sarah Power

E-mail: sfpower2@illinois.edu

Project Description:

IFE will give students experience in EV systems, helping build skills sought after in industry. We will be building a new powertrain for an EV. This involves a student designed and built inverter along with gearboxes and brakes. We will be building five units, with four being used on the car and one for testing and backup. We will increase the efficiency of our current inverter while matching the current power output. Our current inverter wastes 3kW as heat. Our custom inverter will only produce 1 kW of waste heat. The custom inverter will also use regenerative braking, which will increase the energy efficiency of our car.

This proposal directly funds:

- MOSFET modules: \$3,000
- Printed circuit boards: \$1,200
- Microprocessors: \$150
- Encoders: \$1,875
- Motors: \$40,000
- Electronic components: \$300
- Water cooling block: \$300
- Machined Motorsport gears: \$17,000
- Machined hub and planet carrier: \$10,000
- Machined upright: \$12,800
- Gearbox bearings: \$2,500



STUDENT SUSTAINABILITY COMMITTEE

- Brake calipers: \$3,200
- Brake system master cylinders: \$2,000
- Brake system lining and hardware: \$500
- Wire harness connectors and supplies: \$5,000