



STUDENT SUSTAINABILITY COMMITTEE

Semesterly Report

Thank you for your commitment to green initiatives at the University of Illinois. One of the ongoing requirements listed in the terms of the funding agreement for your project is the submission of semesterly reports with key information about your project. In addition to this form, please provide additional financial documentation and/or progress photos if available.

Please be as accurate as possible in describing the project (including possible setbacks or challenges in meeting the initial goals of the project). Not fully meeting your project's goals will not disqualify you from making future funding requests as long as your reports are as complete and accurate as possible. If you have any questions, please contact the Student Sustainability Committee, at sustainability-committee@illinois.edu.

Project Name: InSPIRE SPOT Project

Date of Report Submission: 5/9/2019

Project Purpose:

Promote solar energy to the public by giving them an opportunity to view and use solar panels to charge their devices. Also to reduce greenhouse gas emissions by reducing the use of electricity from the grid and increasing use of renewable solar energy. The last purpose is to give the team constructing the project real life engineering design experience and technical knowledge on solar energy systems.

Detailed Accounting of Expenditures to Date:

All expenditures are listed in the purchases lists in the appendices

Project Progress to Date:

We have acquired approval of the solar energy system by Prof Philip Krein, a professor in power systems in the department of electrical and computer engineering UIUC. Significant work has been done on the solar energy system that will harness, store and use the solar energy from the solar panels. The Solar System is likely to be finished before the end of summer or early fall 2019. Solar panels have been donated by the department of electrical and computer engineering. We have also acquired approval for the structural design of the project by Creig Grant in the facilities & services department of UIUC. The InSPIRE build team have been training in the use of power tools, concrete work and other necessary skills to build the structural component of the system which includes the table, pole and table/pole connections.

Student Involvement and Outreach to Date:

Student inspire build team (consisting of more than 15 official members and 8 regular members) have worked on the system with guidance from ECE power electronics professor Phillip Krein and the department of facilities and services in UIUC. From this they have acquired technical knowledge on solar energy systems and have gained skills related to wood-working, concrete work and the use of power tools. The remaining branches of InSPIRE have used this technical knowledge on solar energy systems and have conducted short presentations on the basic of building all those interested in the student body of UIUC.

Marketing and Promotion Efforts to Date:

The SPOT project has been presented to interested students in presentations made by InSPIRE as well as a booth in the yearly Engineering Open House events.

Additional Comments:

N/A

Appendix:

InSPIRE Purchase List:		Date finalized: 1-21-19
Electrical System Purchase List (last modified: 11/3/18)		
(#) Part	Quantity	Price
(2) DC Circuit Breaker #1	2	\$29.10
(3) Ground Faults Protection Device	1	\$51.23
(4) MPPT Charge Controllers	1	\$399
(5) DC Circuit Breaker #2	1	\$28
(6) Battery Bank	2	\$99.99
(6) Battery Bank (alternative if sold out on Amazon)	2	\$128.74
(7) Inverter	1	\$642.08
(7) Inverter (alternative store if other is sold out)	1	\$652.19
(8) AC Circuit Breaker	1	\$8.94
(9) Outlets	2	\$20.99
(10) Low Voltage Disconnect	1	\$55.50
Total (without alternatives)	15	\$1,484.70
Total (If both alternatives are used instead)		\$1,552.31

** no alternatives where bought

InSPIRE Purchase List:		Date finalized: 2-12-19
Additional/remaining Items (last modified: 1/17/19)		
Item	Qt	Price/unit
Battery Bank	1	\$107.96
AC Circuit Breaker	1	\$9.20
Strike anchor	1	\$57.35
Orange ASA 3D printing Material	1	\$38
Total		\$212.51

InSPIRE Purchase List:		Date finalized: 2-14-19		
Item	Qt	Price/unit	Total Price	Notes
30amp DC circuit breaker	2	\$12.25	\$24.50	
Electrical Enclosure	1	\$931.27	\$931.27	Model: SCE-29VR2412, 29 H x 24 W x 12"D
Concrete Mix	0	\$13	\$0	
Rebar Bundle	2	\$17.44	\$34.88	
Total			\$990.65	

InSPIRE Purchase List:		Date finalized: 3-20-19	
Item	Qt	Price/unit	Total Price
100% Plastic Board	1	\$106	\$106

InSPIRE Purchase List:		Date finalized: 4-20-19	
Item	Qt	Price/unit	Total Price
DC Circuit breaker box	1	\$49.88	\$49.88
Two Hole Conduit Strap (8mm)	1	\$8.73	\$8.73
16mm Drill Bit for Metal	1	\$15.11	\$15.11
Cable Glands	1	\$9.99	\$9.99
1/2 screws	1	\$5.25	\$5.25
10 Gauge Silicone Wire	1	\$16.48	\$16.48
MC4 Connectors	1	\$9.99	\$9.99
Power Strip	1	\$12.45	\$12.45
Temperature Controller	1	\$34.99	\$34.99
Total	9	N/A	\$162.87