



STUDENT SUSTAINABILITY COMMITTEE
ANNUAL REPORT



2013-2014

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MESSAGE FROM THE CHAIR

The **Student Sustainability Committee (SSC)** at the University of Illinois at Urbana-Champaign is a group of ten students and eleven faculty and staff who advocate for a more sustainable campus by funding unique and innovative projects. As SSC chair, I am proud of the accomplishments of one of the nation's oldest and largest student-driven sustainability funds.

Each year, ten dedicated students are selected by the Illinois Student Senate to serve on the committee. As student members of SSC, we are in a position to have a direct and lasting impact on the sustainability of our college campus. Each year, SSC recommends funding allocations for sustainability projects that, combined, are over \$1.1 million per year.

Together, we are making a positive and lasting impact on this campus, as well as the planet, and are thrilled to be a part of this process. This annual report will guide you through the year's activities and accomplishments that are helping to create a culture of change on this campus.

If you have any questions, or just want to know more about the SSC, please don't hesitate to contact us. Our Program Advisor will also be happy to help you with any questions regarding the processes and procedures of the SSC, or about the background of any of our projects.

Best Regards,

Marika Nell, Chair
2013-2014 Student Sustainability Committee





V O T E YES
FOR A
SUSTAINABLE ILLINOIS

HIGHLIGHTS



STUDENT SUSTAINABILITY COMMITTEE
ssc.union.illinois.edu

The 2013-2014 academic year was marked by changes and triumphs for the **Student Sustainability Committee**. The committee continued to fund exciting new initiatives, revised its funding process and campaigned for a referendum to maintain the fees that support SSC projects – all while undergoing significant staffing transitions and working with interim support staff.

The Committee modified its funding timeline for 2013 in order to have the end of its fall funding cycle overlap with the beginning of the spring funding cycle. This allows the committee moving forward to have a sense of the total dollar amount being requested in any given academic year before officially assigning money to any projects. With the extremely competitive nature of the funding process, especially for large-scale projects, this new process greatly enhances the consideration of applications.

From a pool of over two dozen applications, the SSC committed to fund eighteen projects ranging in cost from under \$2,000 to almost \$400,000. The new projects, scheduled to be completed no later than mid-2016, include new solar panel installations on campus, enhancements to the offerings at the Student Sustainable Farm and even solar-powered cookstoves that can take the place of charcoal grills.

In order to maintain the ability to fund projects like the above, the fees which support the Student Sustainability Committee had to be re-affirmed by the student body via a campuswide referendum. In the fall, a 30-page narrative was compiled by students and presented to the Student Fee Advisory Committee (SFAC). SFAC was impressed with the content and recommended that the fees remain at the same amount and then referred the issue to the student body for a vote in the spring.

During the referendum campaign, the committee spoke to classes and advertised on buses and digital signage across campus, receiving positive coverage from the Daily Illini. The result was a successful vote to maintain the fees for another three years and a promise from the committee to continue its efforts to promote sustainability at the University of Illinois at Urbana-Champaign.

MISSION STATEMENT

We are securing a cleaner, safer, lasting sustainable environment for the University of Illinois. We are students of this university and stewards of our future world.

The **Student Sustainability Committee (SSC)** is a student-led organization charged with the distribution of two student fees – the Sustainable Campus Environment Fee and the Clean Energy Technologies Fee. With the ultimate goal of making the University of Illinois at Urbana-Champaign a leader in campus sustainability, SSC reviews, recommends and funds projects that increase environmental stewardship, inspire change and impact students.

2013-2014 MEMBERS

FACULTY ADVISORS:

Dr. Jeremy Guest - *Civil and Environmental Engineering*
Dr. Mark Taylor - *Architecture*
Dr. Nicholas Brozovic - *Agricultural and Consumer Economics*
Dr. Brian Deal - *Urban Planning*
Dr. Michelle Wander - *Natural Resources and Environmental Sciences*

STAFF ADVISORS:

Lowa Mwilambwe - *Director of the Illini Union*
Ben McCall - *Assistant Director, Institute of Sustainability, Energy and Environment*
Betsy Jo Liggett - *Environmental Compliance, Facilities and Services*
Morgan Johnston - *Associate Director of Sustainability, Facilities and Services*
John Prince - *Deferred Maintenance, Facilities and Services*

STUDENT MEMBERS:

Rachna Bhatia - *Energy Working Group Co-Chair*
Konstantin Divilov - *Communications Coordinator*
Maria Jones - *Food and Waste Working Group Chair*
Katie Kinley - *Treasurer, Transportation Working Group Chair*
Amy Liu - *Land and Water Working Group Chair*
Nishant Makhijani - *Vice Chair, Education Working Group Chair*
Matthew Murphy - *Marketing Chair*
Marika Nell - *Chair of the Full Committee*
Richard Vachula - *Energy Working Group Co-Chair*
Olivia Webb - *Vice Chair*

SUPPORT STAFF:

Marques Burris - *Program Advisor*
Janusz Gal - *Student Web Support*



2013-2014 FUNDED PROJECTS

From a field of almost thirty outstanding applications, the **Student Sustainability Committee** ultimately chose to allocate its funds to the following projects during the 2013-2014 academic year.



ALLERTON PARK BIKE SHARE - \$5,000

Allerton Park is a valuable, but underutilized property owned by the University of Illinois. The Allerton Park Bike Share project intends to improve Allerton Park and make it more attractive to the campus population and the community at large through the installation of a bike share system. In addition to providing an attractive service for visitors, this project will also help promote green transportation when traveling around the 1,517 acre estate.

ALLERTON PARK SOLAR ARRAY PHASE 2 - \$22,768.00

Allerton Park already has a solar array located near its Visitors' Center. The second phase of the Allerton Park Solar Array project involves working with a Learning In Community (LINC) class to construct a second ground-mounted solar recharge array. This second phase builds on the success of the existing array with the adjacent construction of an additional 60 panels. The design of the Phase 2 array utilizes an innovative floating foundation system that allows for portability of the array, if necessary. The total array provides 14.7kW of peak power, which translates to a projected annual output of 14,653 kWh (about 15-20% of total apCAP solar goals). Power at the panel and array level can be monitored remotely and be publicly viewable via an online dashboard which displays the impact of the solar power contribution in terms of energy equivalents: gallons of gasoline, light bills, tons of coal, barrels of crude oil, and planted trees.

CAMPUS COMMUNITY GARDEN: - \$51,530.00

FOSTERING SUSTAINABLE FOOD PRODUCTION AND UNDERGRADUATE LEARNING

The Campus Community Garden (CCG) will be designed by students, then built and planted on the University of Illinois Turf Farm grounds. The CCG will look and feel like a typical allotment-style community garden, but the management of the garden will be focused on undergraduate learning opportunities. To this end, half of the individual garden plots (24 raised beds) will be made available to students for independent gardening activities and experimentation. The other 24 raised bed garden plots will be used for teaching, demonstration, and outreach on urban agriculture, and they will also serve as important examples of successful production methods for student gardeners.

COFFEE GROUND REPURPOSING - \$1,820.00

The Coffee Ground Repurposing Project, spearheaded by University Housing, seeks to create a coffee ground recycling network on the University of Illinois campus. Rather than discarding used coffee grounds and sending them to a landfill, University Housing will offer used coffee grounds from the dining halls to the public for composting and reuse. The project has two main goals. First, the project will further minimize the amount of food items being directed to the landfill from University Dining Halls. Second, and more importantly, the program will be an educational tool to demonstrate to University of Illinois at Urbana-Champaign students how nearly every item they dispose of has an alternative use as opposed to being sent to the landfill.

COMPOSITES IN AVIATION - \$52,930.00

Student Aircraft Builders (SAB) is an organization dedicated to teaching students from all across campus how to work together as a team to successfully construct a flyable airplane. The goal of the Composites in Aviation project has two phases. The first phase constructs a quarter-scale glider powered by alternative energy. The second phase graduates from a model to a full-sized glider. Through the use of composite materials and design from an aerospace engineer, the finished glider will exemplify the future of more fuel-efficient long-range flight.

ELEMENT HOUSE AT THE ENERGY FARM - \$44,300.00

The 2007 Solar Decathlon house is coming home to Champaign-Urbana at a permanent location on the University Energy Farm. Funds have been secured for its transportation, placement on a permanent foundation, utility hook ups and inspection of current systems to ensure safe working order. Funding from the Student Sustainability Committee will defray the costs of upgrading the systems and bringing the house up to code. To meet these goals, the solar array will need to be redesigned and reconstructed; the electrical, lighting, and HVAC systems will need to be updated; and new monitoring equipment will need to be installed. Ultimately, the goal of this project is to have a fully functioning net negative energy residential model home. Student groups will assume the responsibility for all design, construction and monitoring tasks as they are able.

ENERGY SHADE CURTAINS PHASE III - \$71,000.00

Energy shade curtain systems operate by user-programmable settings governed by outdoor temperature and solar radiation. As temperature and/or solar radiation levels increase, curtains close incrementally to shade crops from an overabundance of light and helps maintain temperatures from exceeding thresholds. Conversely, as temperatures decrease in late evening, curtains close to provide a thermal barrier from the outside environment. In turn, this helps to mitigate overuse of heating inputs required to maintain temperature. The Plant Science Laboratory Greenhouses have come to the SSC twice before for funding; this grant allows them to expand their successful implementation of this system with seven additional curtains.

FARM AND FIBER - \$79,620.00

Fresh Press, in collaboration with the Sustainable Student Farm (SSF) and the Woody Perennial Polyculture (WPP) site, are aiming to grow student opportunities through individual and collaborative research and public engagement efforts. The money requested in the Farm and Fiber grant will contribute to the acquisition of walk-in coolers, perennial crops, bee hives/equipment, additional paper dry box, a bailer/hay rake and a bale shredder blower. This equipment will benefit each project at the SSF by increasing farm production and allowing for increased agricultural fiber yield, leading to a growth in paper production. This increased capacity will triple production capacity and allow greater opportunity for university paper commissions and student workshops in Fresh Press facilities at South Studios.

FIELD TO FUEL: - \$100,000.00

BIOMASS HEATING ON CAMPUS

The Field To Fuel Biomass Heating Project aims to lay the foundation for a new approach to renewable, low-carb energy at the University of Illinois. The installation of a 250 kW biomass boiler plant, associated hot water distribution and necessary heat exchangers will satisfy the total heat requirements of the research greenhouse at the Energy Farm. The budget also covers the installation of instrumentation and hiring of student support to monitor performance and emissions from the system. The long-term goal for this project is to lead to larger biomass projects supplying energy to the University of Illinois at Urbana-Champaign campus through Abbott power plant or other plants that feed energy to campus.

LED LAMP RETROFIT: - \$39,900.00

KRANNERT ART MUSEUM

The Krannert Art Museum approached the Student Sustainability Committee with an immediate need to improve their lighting profile. This specific LED Lamp Retrofit project would switch from incandescent lamps to LED lamps in the Noel Gallery and the East Galleries. Given its variety of available lamps, its efficiency values and its non-UV characteristics, LED lamps are an ideal solution for these galleries at Krannert Art Museum.

NEW ECE BUILDING PROJECT: - \$225,000.00

SOLAR PANELS

The new Electrical and Computer Engineering building (New ECE building) opened in Fall 2014, and is unique among the many sustainable buildings on the University of Illinois campus. The new ECE building is designed to be the most energy efficient engineering building in the world and is on track to achieve LEED platinum certification, the highest rating for efficiency. With the planned solar energy complement (including the panels funded by the SSC), the building is projected to achieve net zero energy status. The facility will be one of the two largest net-zero energy buildings in the United States, supporting all its own energy needs and leaving no carbon or fossil consumption footprint.

NITRILE GLOVE RECYCLING - \$1,940.81

The Nitrile Glove Recycling Program is an expansion of a preliminary pilot program performed by the Illinois Sustainable Technology Center (ISTC). The initial pilot program collected gloves used in the laboratory setting in one central location. Gloves were collected from individual ISTC laboratories once a week and put into a larger collection container, and then were stockpiled until there was sufficient volume to ship to the supplier. This project expands the pilot test to several more buildings on campus as a stepping stone to eventually serving the entire campus.

SUSTAINABLE AGRICULTURE FOOD SYSTEM: - \$387,000.00

PHASE II

One of the obstacles the Sustainable Student Farm faces is that, while its goal is to provide food for the student population, its peak growing season is during the summer when the student population is much smaller. The second phase of the Sustainable Agriculture Food System provides a model local food system that sustainably processes tomato sauce made from freshly grown tomatoes and distributes it to the campus dining halls. This project, its experiences and the project data will be accessible to the campus community and others involved in the local food movement. A long term goal for the Sustainable Agriculture Food System is to eventually be able to process all commonly grown produce in Illinois.

ZERO WASTE EVENT AT STATE FARM CENTER - \$1,929.70

“Zero Waste” is a common term that refers to the desired outcome rather than any expectation. The goal of the Zero Waste Event at State Farm Center, as stated to the SSC, was to change to the habits of fans, starting with a single basketball game as part of the national Recyclemania competition. The desired outcome is for the State Farm Center to move from a single bin system to dual bin system. The new system will be accompanied with new signage for clarification.

RECYCLING ON THE QUAD - \$22,500.00

The intent of this project is to improve the waste process in and around the Quad. The first step will be merging the existing 40 stand-alone refuse containers with 20 new recycling bins to create a total of 30 combined waste/recycling stations. All containers will be cleaned, painted and color-coded to clearly indicate that one bin is for recycling and one is only for landfill-directed refuse. In addition to the expanded bin options, signage will be placed in the buildings on the Quad to launch the new standards and clarify what can be recycled. To measure the impact from this project, waste audits will be conducted before and after the proposed changes.

SECS RE_HOME LANDSCAPING PROJECT - \$4,008.00

In 2011, students and faculty from the University of Illinois at Urbana-Champaign developed the Re_Home for the Solar Decathlon Competition. As a result of a new landscaping and beautification plan, the Re_Home has found a permanent place on campus. In order to maintain a “sustainability ideology,” the landscaping plans for this project are geared toward sustainability with the use of native, low maintenance plants as well as vegetables, edible herbs and fruit trees. The Re_Home is an exemplary embodiment of sustainability and its permanent home will serve as a showcase in sustainability education.

SHELTERED BICYCLE PARKING: - \$46,200.00

CHEMICAL LIFE SCIENCES BUILDING AND ROGER ADAMS LABORATORY

Providing safe and convenient locations for bicycle parking is one of the key ways the university can support increased bicycle ridership and greener commuting. The goal of this project is to construct a secure, sheltered bicycle parking area for students, faculty and staff at the Chemical and Life Sciences Building and the Roger Adams Laboratory. These parking structures are modeled after the sheltered bicycle parking currently located at the Ikenberry Commons.

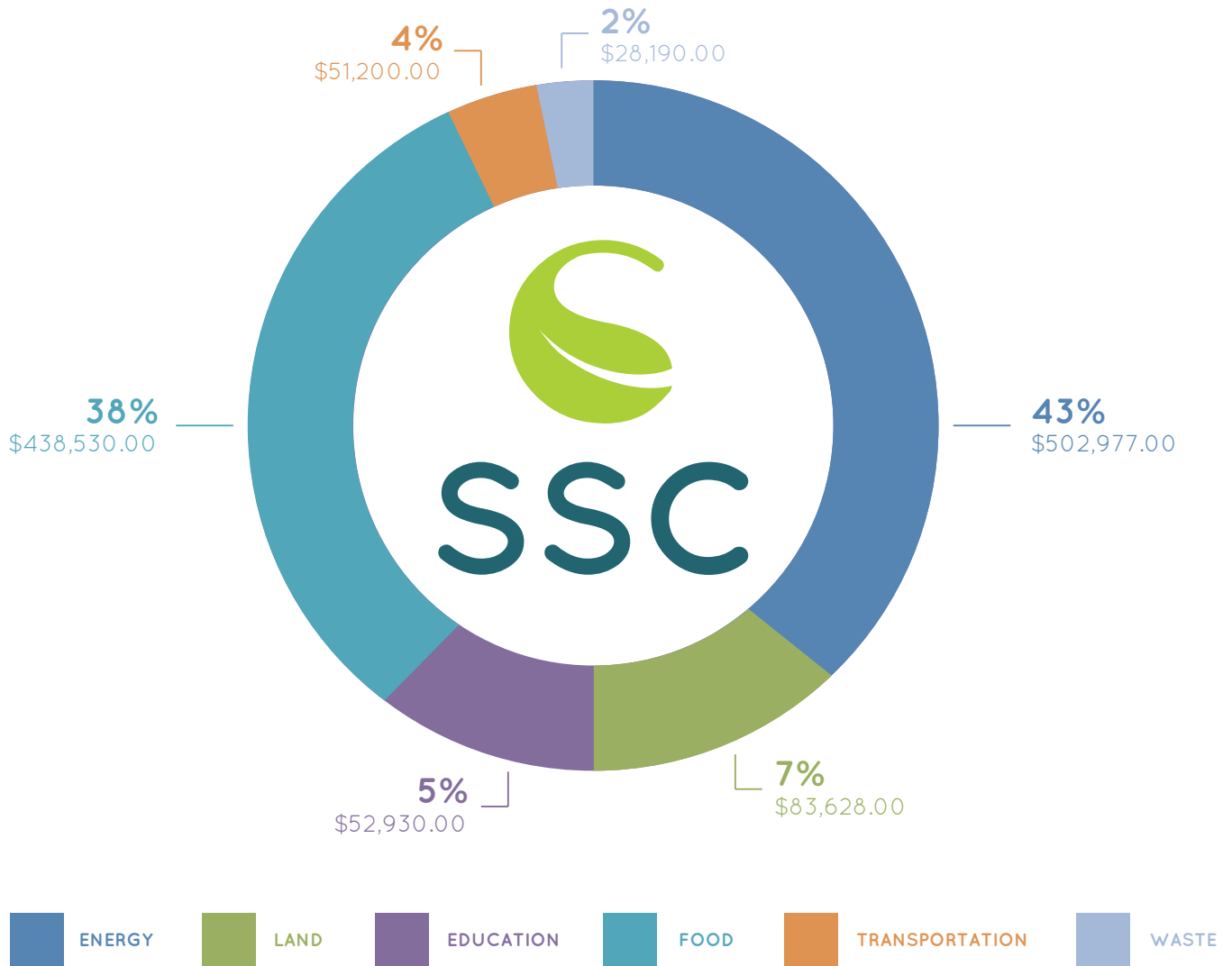
SOLAR POWERED COOK STOVES: - \$9,000.00

NEXT GENERATION SOLAR COOKING AND GRILLING INNOVATIONS

The Solar Powered Cook Stoves project is an innovative effort to implement cook stoves powered by solar energy. The stoves associated with this project will utilize innovative new technology to overcome some of the key limitations of current solar cooking. Specifically, they will offer high-temperature cooking and grilling during use while also storing energy for additional times of cooking. Once completed, these stoves will provide a clean source for cooking and grilling that doesn't use fire, gas, wood or charcoal.

FUNDING SPENT IN 2013-2014

■ THIS GRAPH ILLUSTRATES THE AMOUNT OF FUNDING SSC SPENT ON EACH SPECIFIC AREA OF SUSTAINABILITY.



ACKNOWLEDGEMENTS

First and foremost, the **Student Sustainability Committee** thanks the student body of the University of Illinois at Urbana-Champaign for everything that have done, and continue to do, to make the SSC a reality. From providing project submissions and feedback for new sustainable initiatives at Illinois to voting to reaffirm the fees that make up the SSC's pool of funding, it is clear that none of what we have done during this past year would be possible without their help.

The Student Sustainability Committee would also like to thank the faculty and staff representatives on the Committee for their tireless support and expert advice. The staff members have provided expertise on university policies and procedures as well as relevant state and federal environmental guidelines. They have been an inestimable help as well in shepherding projects "from concept to concrete."

Finally, the faculty of the SSC provided comprehensive assistance and guidance during the evaluation of projects in their areas of expertise. Projects were reviewed and feedback was submitted in a timely manner, and their input and assistance helped foster the leadership and informed decision-making of the SSC's student members.

