

STUDENT SUSTAINABILITY COMMITTEE

University of Illinois at Urbana-Champaign

2020-2021 ANNUAL REPORT



UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN



Student Affairs

Student Engagement

TABLE OF CONTENTS

ABOUT.....	3
OVERVIEW OF PROGRAMS & SERVICES.....	6
ASSESSMENT.....	14
EQUITY, INCLUSION, & JUSTICE.....	24
COLLABORATIVE PARTNERSHIPS.....	25
SOURCES.....	27

ABOUT

Student Sustainability is the unit of Student Engagement at Illinois that is charged with leading the student body toward building a culture of sustainability on campus. Student Sustainability utilizes the collective agency of students to catalyze pragmatic, solution-oriented, and inclusive change in our community.

Illinois students have been sustainability leaders in higher education for years, but we know there is more work to do. So, we have set the following new goals to further increase our sustainability effort:

- Decarbonizing our campus thermal energy systems, increasing our energy procurement from renewable sources, and reaching carbon neutrality as soon as possible, ideally by 2035, but no later than 2050.
- Integrating sustainability into student life and culture in the places we live, eat, and play through campus housing, dining, and recreation.
- Holistically incorporating environmental justice into our sustainability mission by collaborating with Black, Latino/a/x, Indigenous, LGBTQ+, rural, international, impoverished, and other underserved communities globally, but especially locally in and around Champaign County.

How can students make a difference? Students advocated for a Solar Farm, and now Illinois has one of the largest university-owned photovoltaic arrays in the country. Students volunteer and work at the Sustainable Student Farm that provides more than 50,000 lbs. of locally grown produce per year to the dining halls. Students proposed and passed a referendum to establish one of the largest university sustainability funding pools in the nation—over \$1.2 million annually. More than 300 sustainability projects, many of which were student-led, have been financed since the referendum was approved by the student body in 2003. A total of \$15.55 million has been allocated toward these sustainability initiatives.

Student Sustainability is not just about the big decisions. It is also about our daily choices: taking a shorter shower, recycling plastics, eating sustainably sourced foods, using zero-emissions modes of transportation, and the hundreds of other little actions we take that add up to have a profound impact on our environment. It is through the small and big commitments that we will build a culture of sustainability at Illinois and create a more promising future for the world.

2020-2021 Committee Membership

Student Board

- Joseph Edwards – *Chair*
- Sarah Gediman – *Vice Chair External (Fall 2021)*
- Jonah Messinger – *Vice Chair External (Spring 2021)*
- Julia Marsaglia – *Vice Chair Internal*
- Julija Sakutyte – *Communications Project Coordinator*
- Jack Reicherts – *Communications Project Lead*
- Lucy Nifong – *Communications Project Lead (Spring 2021)*
- Natalie Hill – *Communications Project Lead (Spring 2021)*
- Emma Loew – *Community Outreach Lead (Spring 2021)*
- Caitlin Bloomer – *Professional Development Lead*
- Maria Maring – *Student Outreach Lead (Spring 2021)*
- Aditya Bhansali – *Education & Justice Working Group Chair*
- Mallory Mahen – *Education & Justice Working Group Chair*
- Brinn McDowell – *Energy Working Group Chair*
- Joshua Woolf-Senoff – *Energy Working Group Chair*
- Kealie Vogel – *Energy Working Group Chair (Fall 2021)*
- Xanthe Huspen – *Food & Waste Working Group Chair*
- Cinderella Teng – *Land, Water, & Air Working Group Chair (Spring 2021)*
- Meghan Selip – *Land, Water, & Air Working Group Chair (Fall 2021)*
- Boming Yang – *Transportation & Infrastructure Working Group Chair*
- Kara Yarrington – *Transportation & Infrastructure Working Group Chair (Fall 2021)*

Faculty Advisors

- Dr. Andrew Stumpf
- Dr. Brajendra Kumar Sharma
- Dr. Eugena Lee-Olukoya
- Dr. Jessica Brinkworth

- Dr. Kevin McSweeney
- Dr. Ximing Cai
- Dr. Yun Kyu Yi

Staff Advisors

- David Guth
- Eric Green
- Lisa Peacock
- Meredith Moore
- Morgan White
- Samuel Yoo

OVERVIEW OF PROGRAMS & SERVICES

Summary

2020-2021 was a whirlwind of new beginnings, transitions, and adjustments. Student Sustainability was created as a unit within the Student Affairs Division under the Student Engagement Department in Spring 2020. Samuel Yoo was then hired in Summer 2020 to serve as the first assistant director for Student Sustainability.

In addition to functioning as a campus hub for sustainability for the student body, the Student Sustainability unit was also tasked with housing and assisting the Student Sustainability Committee (SSC) in their operation.

As a new unit, there was some initial soul searching in terms of finding a niche within the greater campus landscape and previously existing sustainability entities. However, after many Zoom meetings, Slack threads, emails, and one-on-one conversations, the following four areas were identified and pursued as priorities:

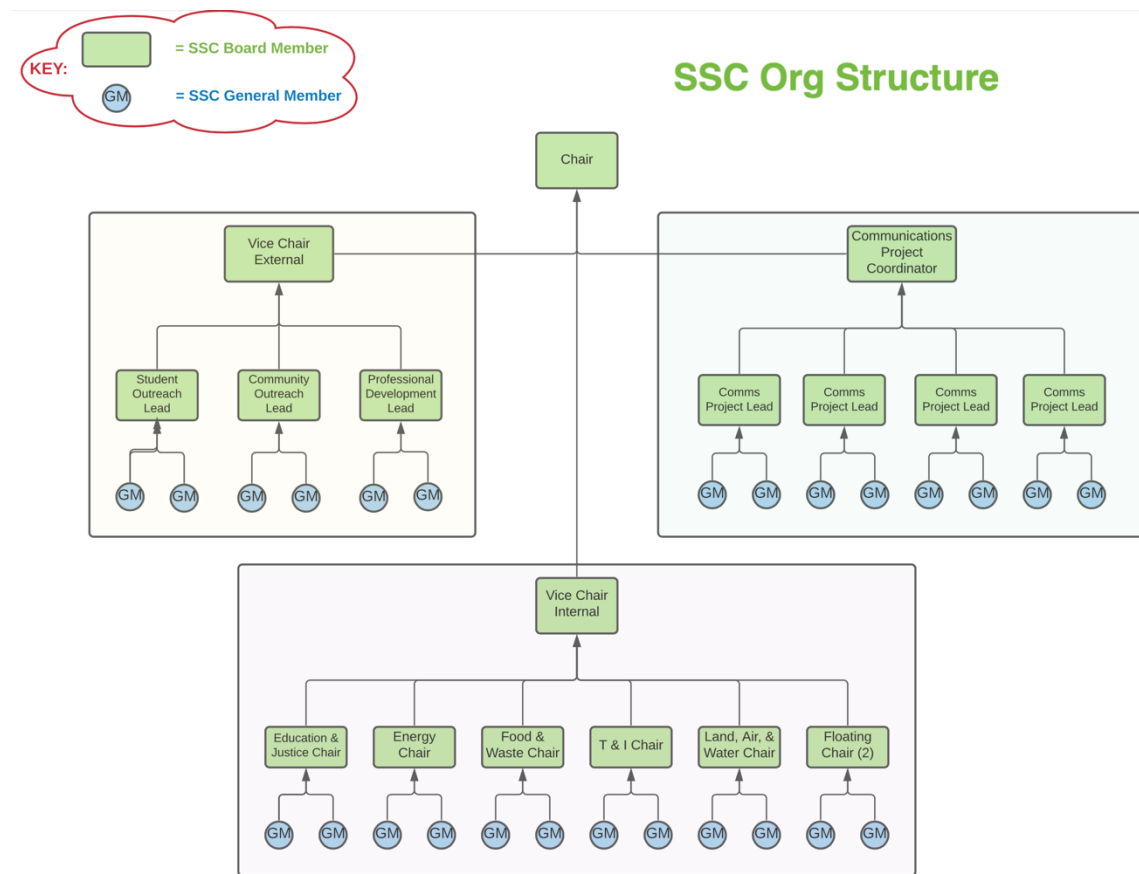
(1) Education, Engagement, & Outreach

Illinois is thriving in terms of producing publications and research addressing sustainability. There are more than 170 sustainability focused courses and dozens of sustainability related undergraduate and graduate majors and concentrations. And yet, there is an evident disconnect between the progressive work on sustainability that is happening in labs and classrooms and the lagging culture of sustainability that is observed in our student body.

One proposed rationale for this is that much of the sustainability activity is happening in isolated silos on campus. Much of it does not reach beyond the STEM colleges and departments. Hence, education, engagement, and outreach catered to the general student body became a point of emphasis for us. We wanted to broaden the scope of the sustainability initiative to include faculty, staff, and student members in the arts, business, the humanities, law, etc. Our goal was for every campus community member to see themselves as an agent of change for the purposes of sustainability.

Our first order of business was to restructure the SSC Board. Students voiced a deep desire to be more than a funding board. Historically, SSC has focused on funding allocations, but the students decided that it was time to evolve as a group and develop SSC to be more involved in terms of educating and engaging

the campus community. Thus, a new organizational structure was created to align with these new goals:



Two additional teams were added—the Social Initiatives Team and the Communications Team. The Social Initiatives Team includes the Student Outreach Lead, the Community Outreach Lead, and the Professional Development Lead. These three roles were created for the purpose of educating, engaging, and reaching the campus community as well as the local Champaign-Urbana community. We wanted to designate individuals to be devoted to this full-time.

To support the broadened mission of SSC, we also created the Communications Team to have more people and resources delegated toward creating marketing content and spreading the word about our initiatives.

After the organizational restructure, we got to work in terms of creating programs and events. SSC still held its traditional bi-weekly Education & Justice, Energy, Food & Waste, Transportation & Infrastructure, and Land, Air, & Water working group meetings. In addition to the usual working group meetings, starting in Spring 2021, the group also hosted the following events:

- 2/8/2021: SSC Open House (57 Students Attended)
 - Purpose: To recruit and activate a general membership body.
- 3/1/2021: Energy Coffee Hour
 - Purpose: To host a space where students, staff, and faculty could come together to learn about and discuss current local issues regarding energy and sustainability.
- 3/25/2021: Transportation & Infrastructure Coffee Hour
 - Purpose: To host a space where students, staff, and faculty could come together to learn about and discuss current local issues regarding transportation, infrastructure, and sustainability.
- 4/6/2021: Food & Waste Coffee Hour
 - Purpose: To host a space where students, staff, and faculty could come together to learn about and discuss current local issues regarding food, waste, and sustainability.
- 4/21/2021: Education & Justice Coffee Hour
 - Purpose: To host a space where students, staff, and faculty could come together to learn about and discuss current local issues regarding education, justice, and sustainability.
- 4/22/2021: Green the Quad (64 Students Attended)
 - Purpose: To create an event on Earth Day where sustainability organizations and groups on campus could all set up booths on Anniversary Plaza to create a “Green Quad Day” type event. The goal was to increase the visibility of sustainability initiatives on campus and to get more of the general campus community involved.
- 4/22/2021: Earth Day Extravaganza + Recycling Center Launch (370 Students Attended)
 - Purpose: To raise awareness about environmental issues and to give the student body an opportunity to participate in making the campus more sustainable by enlisting their help with putting together the new recycling centers in the Illini Union.
- Summer 2021: Inbound & RISE Orientation Programs
 - Purpose: To educate and inform incoming first year students about sustainability resources on campus as well as inviting them to get involved in sustainability efforts on campus.

Despite the pandemic, SSC still felt strongly that it was important to make a conscious effort to promote sustainability and to contribute toward the greater mission of creating a culture of sustainability on campus, even if meant having to do many things remotely.

(2) Financials & Accounting

SSC is charged with stewarding the budget for two student-initiated fees:

- The Cleaner Energy Technologies Fee
 - \$2.00 per student per semester
 - A fee used to purchase cleaner energy technologies for campus, including solar, wind, hydrogen, and geothermal projects; energy efficiency purchases; and the purchase of renewable energy from non-University producers.

- The Sustainable Campus Environment Fee
 - \$12.06 per student per semester
 - A fee to help establish a sustainable campus environment by financing initiatives such as green buildings, engagement of the University community, recycling, energy efficiency, and environmentally responsible purchasing.

Together these two fees amount to an annual budget of over \$1.2 million. Since the inception of the fees in 2008, SSC has allocated \$15.55 million toward funding 316 projects that have made an impact in sustainability.

Upon closer inspection of the inherited green fund portfolio, troubling accounting issues were discovered within many of the project budgets. There were some projects with open accounts and balances that had not been active for years. There were a significant number of projects with sizeable deficits. These issues were of great concern and made it unclear regarding how much funding the SSC possessed.

Julie Shaffer (Director of Budget & Finance, Office of the Vice Chancellor for Student Affairs) was brought in to help clean up the accounting. She collaborated with the Office of Business and Financial Services (OBFS): Accounting & Financial Reporting (UAFR) to create a new financial system for SSC.

Previously, the accounting was structured in such a way that if project groups overspent, the money came out of the SSC's account. Thus, the burden to cover the deficit became the SSC's issue to resolve. Many project groups did not take responsibility for their deficits. These deficits added up over time, adding layers of unexpected costs and complications to the SSC budget.

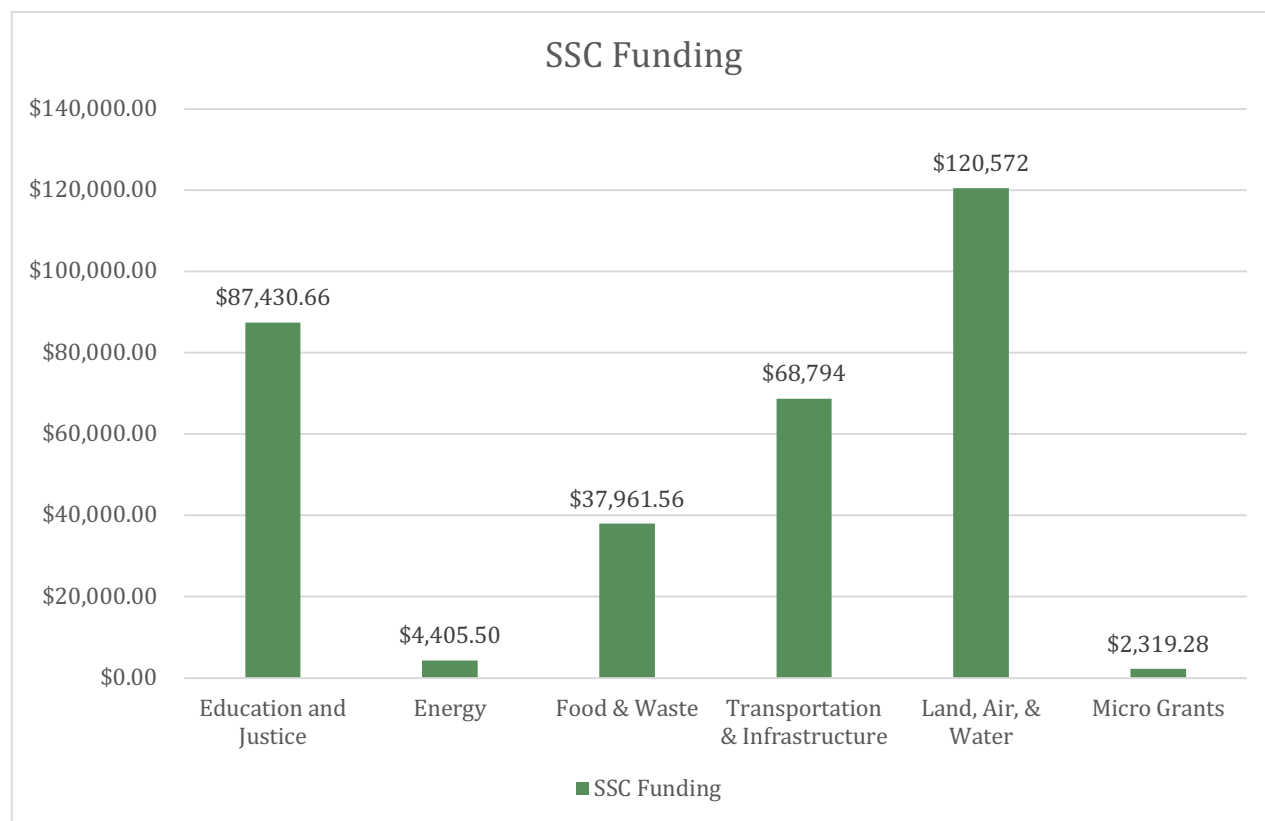
All ongoing and new projects were converted to a new accounting protocol where it is impossible for project groups to spend more funding than was allocated to them by SSC. If a group is awarded \$10k, they will only be able to spend \$10k out of the SSC's account. Anything that is spent beyond that \$10k will automatically be spent out of their department's account and thus

becomes that department's responsibility. The new accounting system prevents SSC from having to sort out deficits on its end in the future and provides a more accurate pulse of the budget at all times.

(3) Funding

Due to COVID-19 related issues, the University decided to only collect student-initiated fees in Fall 2020 from students that had at least one in-person class. Students that were 100% remote were not required to pay student-initiated fees. In Spring 2021, the University elected to withhold collecting the Cleaner Energy Technologies Fee and the Sustainable Campus Environment Fee completely from all students—irrespective of their physical location. As a result, SSC was forced to operate on a severely slashed budget.

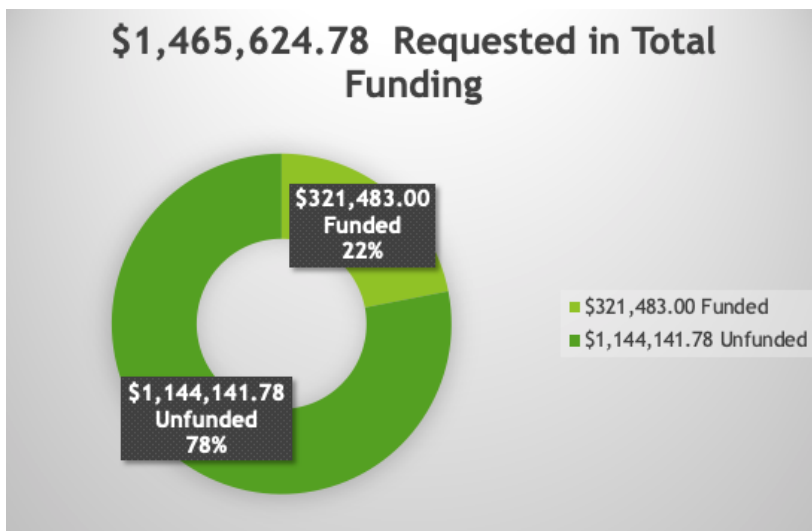
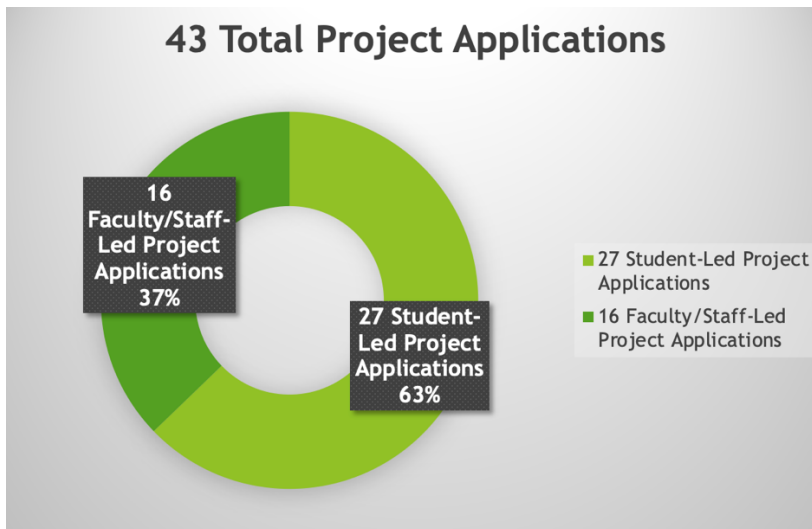
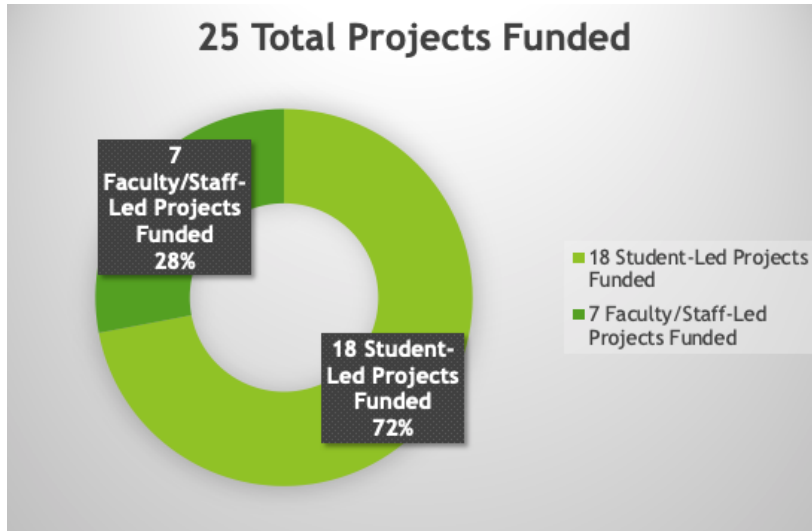
Here is a big picture summary of how the SSC board allocated its limited funding in 2020-2021:



Total Amount Awarded in 2020-2021: \$321,483.00

*Note: For a more detailed project by project breakdown, **See Assessment** (page 12).

2020-2021 Funding Numbers at a Glance:



(4) Marketing & Visibility

As a new unit, it was important that Student Sustainability was proactive in promoting itself. Given the remote learning circumstances due to COVID-19, it was especially vital that we established an online presence. We focused on accomplishing this mainly through the following ways:

- A. Website
 - A Student Sustainability website was created along with an updated SSC website embedded within it.
 - Student Sustainability:
 - <https://studentengagement.illinois.edu/student-sustainability/>
 - SSC:
 - <https://studentengagement.illinois.edu/student-sustainability/ssc/>

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Student Affairs
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Get Involved Programs & Services Finances & Funding About

HOME » STUDENT SUSTAINABILITY

STUDENT SUSTAINABILITY

Student Sustainability Home

- About Student Sustainability
- Student Sustainability Committee (SSC)
- Student Leadership Opportunities
- Sustainability Student Organizations
- Programs & Services
- Awards & Recognition
- Resources
- Contact Us

"Climate change is not the biggest challenge of our time. It's the biggest challenge of all time."
- Sir David King

The University of Illinois at Urbana-Champaign is charged by our state to enhance the lives of people in Illinois, across the nation, and around the world. The scope of this mission includes solving the biggest challenge of all time—climate change. At Illinois, we are not deterred by a good challenge. In fact, we are emboldened by it.

The threats that we are facing due to climate change are immense and connect us all. Whether we overcome this all-time challenge hinges on our ability to innovate and collaborate. This is why Illinois is dedicating its brightest minds and resources toward prioritizing the environment in everything we do: the energy that keeps our lights on, the curriculum in our classrooms, the research we fund, the ways we get around campus, the food in our cafeterias, and everything in between. All of it is approached and planned with sustainability as a guiding measure.

We are building a culture of sustainability, one choice at a time. By transforming the ways that we think and live, we are not only building a culture—we are creating a future.



- B. Social Media

- Instagram, Facebook, and Discord were the main platforms utilized to drive social media traffic.



- C. Campus Communications

- Daily Illini
- Eweek
- GradLINKS
- University Housing (digital billboards)

ASSESSMENT

Here is a detailed list of the projects that were funded during the 2020-2021 academic year, including the associated costs of each:

Education & Justice (\$87,430.66):

- *A Living-lab Platform Based on the CIF Geothermal Project (\$9,318.16)*
 - Campus Institutional Facility (CIF) Geothermal realized a significant energy-saving goal. However, its impacts on the reduction of fossil fuels' consumption, carbon emission and electricity savings are hidden underground and not visible to the public. To further stimulate the students' and citizens' enthusiasm on the engagement in renewable energy applications, this project develops a software platform to quantitatively display the real-time energy transfer & savings of CIF geothermal, from an educational perspective. This virtual living-lab will show the influence of geothermal energy animatedly and increase the public's awareness of the importance of renewable energy on campus.

- *Re_Home Wall Rehab and Siding (\$60,000.00)*
 - The Re_Home was designed and built by students for the 2011 US DOE Solar Decathlon Competition. Following the competition, the house was set up at the Agricultural and Biological Engineering Farm and has been used by Illinois Solar Decathlon club. It serves as a valuable educational facility for students from different colleges and schools on campus to learn sustainable living with zero energy. Unfortunately, the wall and siding have deteriorated in the past 9 years due to water intrusion. This project will rehab the wall and install new siding with a drainage plane system.

- *Biodesign at Illinois (\$4,840.00)*
 - Symmetry and CreAlgae are early-stage bio design projects focused on creating products from natural materials to serve students, designers, entrepreneurs, and community members in the Urbana-Champaign area.

Symmetry is creating wood without cutting down trees for eco-conscious woodworkers in and out of the university, and CreAlgae is focused on creating petroleum-free, algae-based bioplastics for local businesses. The two projects are leading an effort to register UIUC in The Biodesign Challenge (BDC), an annual competition in which teams of artists and scientists from universities across the world learn how to develop sustainable products with biotechnology.

- *Root to Roof – DREAAM (\$3,520.00)*
 - Root to Roof is a student-led community design-build center serving the greater Champaign area. Their mission is to empower students through hands-on learning and design thinking by working on real projects that serve community needs. Through previous SSC funding, they are able to use local and sustainably sourced wood to create customized and thoughtful projects for community organizations. Their impact is two-pronged: 1) Providing students with real projects will give tangible experience and encourage civic engagement. 2) Leveraging the link to the University to build up the surrounding community. This specific project will be a collaboration with DREAAM, a local nonprofit located within UniPlace Church.

- *Campus Air Quality Monitoring Station and Web Dashboard (\$9,752.50)*
 - This project will set up one monitoring station for air quality for streaming live data through an open access web dashboard accessible to all campus community members. The monitoring system would offer a robust and easy to-use air quality monitoring system that can deliver localized real-time readings, improving the accuracy and scope of gathering air quality data to support initiatives to reduce air pollution and its risk to human health. A portable sensor station which includes multiple small-sensor air quality monitors for air quality will be used. This measuring standard offers near real-time localized air quality information and data analysis. The project aims to measure key pollutants in ambient air using the small sensor technology combined with data processing derived from extensive global comparisons with reference data.

Some of the parameters to be measured and reported include:

- Gases including NO, NO₂, NO_x, O₃, CO, SO₂, CO₂ and H₂S using the latest generation of electrochemical sensors
- Particulates PM₁, PM_{2.5}, PM₁₀ and TPC with a light-scattering optical particle counter
- Relative humidity, pod temperature, atmospheric pressure and noise

Energy (\$4,405.50):

- *Energy Farm LED Lighting and Occupancy Sensor Upgrade (\$4,405.50)*
 - In 2010, grant funding from the Energy Biosciences Institute established buildings that support the research, education, and operations of the Energy Farm. This facility is utilized by students and researchers in biofuel and sustainability research. HID lighting in the main high bay work area has been measured to be well below minimum standards for a safe and efficient work space. This project will upgrade fixtures from HID to LED and also install occupancy sensors in workspaces that are observed to remain lit well after activities have concluded by the occupants.

Food & Waste (\$37,961.56):

- *Precious Plastic Campus Recycling Hub (\$12,000.00)*
 - This project aims to reduce the plastic waste from campus shops and makerspaces by providing a community driven recycling hub in the “PreciousPlastic.com” network. The recycled waste would be made into materials that are once again useful in the shops that created the initial waste. The goals of the project are to reduce the amount of waste sent from campus to the landfill, to raise awareness about the effort that goes into the recycling process, and to create useful recycled materials for students to work with.
- *Clean Meat at Illinois (\$10,000.00)*
 - Clean meat, or laboratory meat, is a food product that is produced from growing animal cells of interest (cow, pig,

chicken, etc.) at scale in a laboratory setting to achieve a biomass of suitable size for consumption. It is commonly referred to as clean meat because it is produced in a cruelty free setting and has a reduced environmental impact compared to standard meat products. The goal of this project is to implement a robust clean meat initiative on campus to provide more sustainable food products for students, and so that the University of Illinois can be a model to other universities and organizations in how to champion sustainable, environmentally friendly movements that effectively address real-world issues. Specifically, this project intends to capitalize on the remarkable enthusiasm our campus population has for sustainability and the world-class expertise our graduate students and faculty have in tissue engineering, agricultural and biological engineering, and food science by bringing these two groups together to form a robust, campus-wide clean meat movement.

- *Illini Union Recycling Center Shadow Boxes (\$3,911.56)*
 - This project is a revision to a previously approved \$29,000 project which envisioned adding eight SSC branded eight Max-R three-stream recycling centers and two single stream paper centers to the Illini Union. The additional scope adds 3-D shadow boxes (containing physical examples of waste and recycling streams) to the top of the 3-stream units, which through negotiations with the supplier, Max-R, are now total nine (9). Based on research of other per institutions which have implemented these (University of Wisconsin –Madison, University of Texas-Austin, and Oberlin University), shadow boxes demonstrate to users in a more tangible way how to effectively separate recycling streams from waste.

- *Campus Compost Tumblers (\$2,050.00)*
 - iSEE focuses on environmental outreach and leads many campus sustainability efforts. There is high demand for additional public-facing composting/food-waste reduction drop-off opportunities, beyond what currently exists. This project will add five compost tumblers to highly visible campus locations to collect food waste, coffee grounds, shredded paper, etc., ultimately creating

nutrient-rich compost used to fertilize the pollinator garden on the south side of the NSRC building with opportunities for further expansion. This project provides an educational opportunity intended to engage students, staff, and faculty and embed sustainable waste-reduction practices into daily life.

- *VermiCULTure (\$10,000.00)*
 - VermiCULTure aims to provide both vermicomposting kits and educational materials to the University of Illinois at Urbana-Champaign campus community. The education materials convey the importance of vermicomposting, which is the product of earthworm digestion and aerobic decomposition of food waste, and general food waste management. This project is needed on campus since there is currently no community level option for sustainable food waste disposal. The only recycling or waste management option in Urbana-Champaign is the Landscape Recycling Center, but they don't accept food waste and require payment to give materials. Moreover, there are no organizations, RSOs, or larger campus efforts in the area to compost, much less vermicompost.

Transportation & Infrastructure (\$68,794.00):

- *Illini Solar Car - Project Brizo (\$3,500.00)*
 - Illini Solar Car is a student organization in pursuit of creating the world's best solar-electric vehicle. Through hands-on, interdisciplinary work that fosters real-world applications, they spark sustainable thinking by designing and building a road-legal car to compete in international competitions. They began manufacturing their second generation vehicle last year with the help of SSC. This year, as they work to complete the vehicle, they are aiming to maximize efficiency, minimize body weight, and improve aerodynamics and reliability. With each improvement, they are working towards a future with sustainable transportation.
- *Illini EV Concept EV3 (\$24,094.00)*
 - Illini EV Concept will create EV3, the first student built autonomous and energy efficient vehicle in the US. The

project will allow students from different majors to get invaluable industry experience in cutting edge technology. In the scope of the project, the team is also proposing collecting and recycling old electronics, batteries and PCBs from RSOs on campus to minimize the environmental harm from student-run projects. They are also planning on holding quarterly online video educational sessions to raise awareness of using clean energy, building energy efficient electric cars and development of autonomous vehicles.

- *Building Envelope Pilot Project (\$30,000.00)*
 - This project will reduce energy loss from leaky building envelopes on campus. This pilot project will demonstrate the savings through modelling are achieved through inspection, testing and installation for existing buildings. There are certainly energy savings that can be achieved with building envelope improvements, however the amount of savings are not clearly known. This pilot study will help better quantify the actual savings and help us to prioritize this type of work going forward.

- *Bike Registration Signs (\$1,200.00)*
 - According to the University Bicycle Ordinance, bicycle registration is mandatory for all bicycles on campus. To raise awareness among students and faculty, this project is focused on creating signs to place around campus as a reminder. Bike theft is a major issue in the University District, and this dissuades students from bringing bikes to campus. Registering bicycles increases the chance of recovery if the bike is stolen. This project will work on increasing the number of students on campus who register their bikes while also educating them about the benefits of registration and bike use in general.

- *Eco Illini Supermileage G5e Vehicle (\$10,000.00)*
 - Eco Illini Supermileage will complete the design, production, and testing of a fully-electric prototype vehicle-optimized to achieve the highest mileage per kWh of any competitor at the Shell Eco-Marathon Americas competition. The team will emphasize principles of sustainability and consider the effects of the project's

lifecycle, especially concerning the sustainability of materials use/produced. The project will gather an interdisciplinary team to finish the development, production, and testing of student-designed battery management systems, optimized motor controllers, regenerative braking, and lightweight components. Eco Illini Supermileage aims to enrich student experiences through pursuing the next generation of automotive propulsion, mobility, design, and systematic efficiency in performance parameters, and sustainable design methods. The previous project submission in 2018 aimed to pursue and develop an electric drivetrain using the chassis of the vehicle designed and funded in part from financial support by SSC in 2017. This project aims to sustainably reuse as many foam molds and existing parts/designs in the development, construction, testing, and innovation of a dedicated electric vehicle. This intergenerational innovation of the fifth generation vehicle allows the team to responsibly and sustainably pursue technical innovations using technical evaluations and analyses of the previous car to aid in the most optimized and carbon-neutral vehicle built by the team to date.

Land, Air, & Water (\$120,572.00):

- *Let It Flow (\$25,000.00)*
 - Rain is a blessing and a curse on our research farms. We cannot grow a crop without it but when it comes in excessive quantities it has destructive results on University farms. These farms are intertwined in such a way that as water flows downhill it passes from one department farm to the next. This project looks to redesign the Energy Farm waterway and install a waterway on the Animal Sciences farm to the west so that water flow can be channeled to the Embarras River in a more direct and environmentally sound path. Benefits from this improvement will result in higher quality research fields for student and faculty projects that currently have to contend with unknowns coming from heavy rains impacting or damaging their trials. This is the most urgent area on the Energy Farm, providing the most benefit to research projects and the students they involve.

Assuming there will be some additional minor costs and to add a minimum contingency, the SSC is funding \$25,000 to move this project forward. The Crop Sciences Department will be responsible for the matching funds to get this project underway.

- *Improving UI Campus Land Sustainability with Cover Crops (\$47,572.00)*
 - Our campus has made a commitment to regularly add cover crops to production acreage across the College of ACES South Farms. Cover crops are not harvested. They are included in between cash crops to protect soil from erosion and nutrient losses. Within ACES, agricultural land used for corn silage, small grains, and nursery work are optimal for cover cropping due to their earlier harvest time compared to the traditional corn/soybean rotations. Students will gain hands on experience in all aspects of cover cropping systems while conducting research to evaluate changes in soil fertility and cash crop yields.

- *Identifying the Campus Benefits of a Large-Scale Prairie Experiment (\$28,500.00)*
 - Reducing UIUC's carbon footprint requires both identifying techniques that work and accurately quantifying natural areas that serve as carbon sinks. This project utilizes a student led quantification of the variability in ecosystem services in an experimental prairie. Prairies can sequester more carbon than forests, but this requires the land to be of high quality. Students will gain valuable training in ecological sampling techniques of plants, insects, soils, and microbes while also improving the university's future habitat restoration efforts by identifying techniques that improve plant establishment and carbon sequestration.

- *Hydrologic (\$10,000.00)*
 - Hydrologic is a project within Illinois Enactus, a registered 501(c)3 nonprofit. Hydrologic aims to implement low flow showerhead technology into University Housing, the housing department at UIUC to bring attention and action to the conservation of water on the University of Illinois at Urbana-Champaign campus. The goal of this project is to

create a custom low-flow and leak resistant shower head that the university can adopt in place of their current standard dormitory shower heads. By introducing a new low-flow shower head to the university dorms, the project aims to educate university residents of the benefits of low-flow shower heads while not diminishing their shower experience --thereby furthering the conversation of water conservation. Concurrently, the project would reduce the university's water consumption and in parallel their water bill and the environmental impact the school has.

- *Resuscitating Soil for Sustainable Futures (\$9,500.00)*
 - This project proposes to develop a metric for monitoring and improving soil health with citizen science. The goal is to train students and members of the community to determine and introduce appropriate mycorrhizal fungi, pollinators and beneficial insects into CU by testing soil and evaluating its health. This project will develop an educational program in conjunction with community partners to turn soil metrics and knowledge into concrete actions: increasing pollinator-friendly areas, introducing pollinators and insects, and expanding use of cover crops. This will address iCAP objectives 4.2.2, 4.3, and 4.4 directly, and strongly benefit the campus community.

Micro Grants (\$2,319.28):

- *Illinois Solar Decathlon Marketing (\$700.00)*
 - Illinois Solar Decathlon is competing in the U.S. Department of Energy Solar Decathlon Build Challenge 2020 to design and build a net-zero energy house in Champaign. ADAPTHAUS is a two-module house that is solar-powered and maintains a high sustainability quotient through efficient systems integration, local material procurement and manufacture, recyclability, reusability, and energy efficiency. The project includes a robust University-affiliated website displaying sponsors, and scheduling systems for the organization's social media and communication platforms. They are also launching a product book(s) with the list of all sponsors and how the sponsors' products helped to increase the sustainability quotient of the house. The funds would be used to educate

the community about the products and how they can save money by using sustainable alternatives to the products that they regularly use.

- *Green Lab Feasibility Study (\$147.28)*
 - This project was brought up in response to the energy iCAP goals. Labs produced around 50% of college campus utilities bills, and could drastically be decreased with a few small changes. When brought up at an Energy SWATeam meeting, many members showed support for an initiative to reduce lab energy use. This project proposal is being written as an Energy SWATeam recommendation. The empirical data that will be collected will hopefully give rise to an official Green Lab committee down the road.

- *Grow2Give (\$750.00)*
 - Grow2Give is a new RSO on campus that is committed to creating more green spaces on campus, as well as making produce more accessible and affordable. To do so, this project will be building and maintaining raised garden beds on campus. Fresh produce that is grown will then be distributed to RSO members and the campus community.

- *Spaceshot (\$722.00)*
 - The Spaceshot Rocket is a solid-fuel two-stage rocket designed to reach the Karman line (edge of outer space) at 328,000 ft (100 km) in altitude. The goal of this project is to develop a simple rocket which would be able to sustainably reach the Karman line using less fuel than other launch vehicles. This was accomplished by decreasing the diameter of the rocket as much as possible to reduce drag and by using novel weight reduction techniques. They will use advanced alloys and composites to reduce the weight of the rocket. As such, they reduced the fuel required for a launch of a similar payload by a factor of 5. Furthermore, while most rockets only fly once and are discarded, Spaceshot is fully reusable, with only minor refurbishment required between flights. Emphasis was placed on using commercial off the shelf motors (COTS) to reduce build time and increase reliability.

SSC received 43 project proposals this year, which included 27 student-led proposals. This amounted to almost \$1.5M in requested funding. The

committee selected 25 projects to recommend for funding. In total, the committee recommended \$321,483.00 for this year's cycle. Land, Air, & Water projects were allocated the most amount of funding while Energy projects were allocated the least amount of funding.

EQUITY, INCLUSION, & JUSTICE

“Sustainability should be science based and justice guided.”

One of the highest priorities of Student Sustainability this year was to broaden the scope of sustainability programming on campus to include all three pillars of sustainability—the environment, society, and economy. The second pillar, also known as social sustainability, was identified as especially relevant.

Social Sustainability is the “development (and/or growth) that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse groups while at the same time encouraging social integration, with improvements in the quality of life for all segments of the population.”¹

Based off a desire to be better in regard to creating these types of conditions in our campus community, SSC created a diversity statement to steer our current and future ambitions:

“The SSC is committed to diversity in all forms. This stems from our core belief that engaging with a wide range of ideas, perspectives, cultures, and peoples facilitates a culture conducive for greater growth. We will find ways to support one another and strive to build a community of care and solidarity towards changing the trajectory of our future for the better.”

Based on these guiding principles, SSC took the following steps to be a change agent for greater social sustainability at Illinois:

- Added a justice layer to the Education Working Group. This working group is now the Education & Justice Working Group.
- Held meetings with the following teams within the Office of Inclusion and Intercultural Relations (OIIR):
 - Office of Inclusion and Intercultural Relations
 - Contact: Dr. Shawna Patterson-Stephens (Director)
 - Diversity & Social Justice Education

- Contact: Teryl Brewster (Interim Director)
 - Bruce Nesbitt African American Cultural Center
 - Contact: Jazmyne Kellogg (Assistant Director)
 - Asian American Cultural Center
 - Contact: Jennifer Mendez (Assistant Director)
 - La Casa Cultural Latina
 - Contact: Mariana Ortega (Director)
 - Native American House
 - Contact: Nichole Boyd (Director)
 - Women's Resources Center
 - Contact: Jaya Kolisetty (Associate Director)
 - International Education
 - Contact: Dr. Yun Shi (Director)
- Led an expanded recruitment campaign for SSC Board Membership aimed at drawing members from a wider range of student populations. This resulted in the two largest applicant pools in SSC's history:
 - For Spring 2021: 43 Applicants
 - For Fall 2021: 33 Applicants
- Presented for the following groups/programs:
 - RISE (Readying Illinois Students for Excellence)
 - RISE is an orientation program geared towards:
 - First-generation college students
 - Students from an underrepresented population
 - Students that are Pell-Grant eligible
 - Presentation Dates:
 - 6/23/2021
 - 6/29/2021
 - The La Casa Alliance of Student Organizations (LCASO)
 - Diversity & Social Justice Education Team (@ OIIR)
- Held initial discussions with Dr. Eugena Lee-Olukoya, Dr. Jessica Brinkworth, and Dr. Kyle C Smith on how the university can better reach and engage underrepresented groups within sustainability and STEM fields on campus.

COLLABORATIVE PARTNERSHIPS

Illinois is teeming with sustainability initiatives and programs happening across its many student organizations, colleges, departments, and research lab groups. However, much of this activity happens within isolated silos and thus, takes away from the potential greater impact of a more coordinated approach.

We want to shift away from lots of different initiatives coming from smaller groups, and we want to move towards connecting these efforts. We understand that we all have the same goal of creating a more sustainable university. We will only accomplish this to the extent that we work together. To this end, we collaborated with the following groups in 2020-2021:

- Alpha Phi Omega Fraternity's Environmental Concern Committee
- Champaign County Climate Coalition (C4)
- Champaign-Urbana Community Fab Lab
- College of Agricultural, Consumer and Environmental Sciences (ACES)
 - Department of Agricultural and Biological Engineering
 - Department of Animal Sciences
 - Department of Crop Sciences
 - Department of Natural Resources and Environmental Sciences (NRES)
- College of Media (Institute of Communications Research)
- Daily Illini
- Department of Anthropology
- Department of Bioengineering
- Department of Entomology
- Department of Mechanical Science and Engineering
- Department of Public Safety Engagement
- Department of Urban & Regional Planning
- Eco Illini Supermileage
- Facilities and Services (F&S)
- Grow2Give
- Illini EV Concept
- Illini Solar Car
- Illini Union Board
- Illinois Enactus
- Illinois Leadership Center
- Illinois PIRG (Public Interest Research Group)
- Illinois Solar Decathlon
- Illinois Student Government
- Illinois Water Resource Center
- Institute for Sustainability, Energy, and Environment (iSEE)
 - Energy SWATeam
 - Engagement SWATeam
 - iCAP Working Group
- New Student Programs
 - Inbound
 - RISE (Readying Illinois Students for Excellence)

- Office of Inclusion & Intercultural Relations (OIIR)
- Root to Roof
- School of Architecture
- School of Information Sciences
- Student Sustainability Leadership Council (SSLC)
- Sustainability Gen-Ed Proposal Working Group
- Sustainable Student Farm (SSF)
- THRUST
- University Accounting & Financial Reporting (UAFR)
- vermiCULTure

SOURCES

1. *Polese M, Stren R, 2000 The Social Sustainability of Cities: Diversity and Management of Change. University of Toronto Press, Toronto, pages 15-16.*