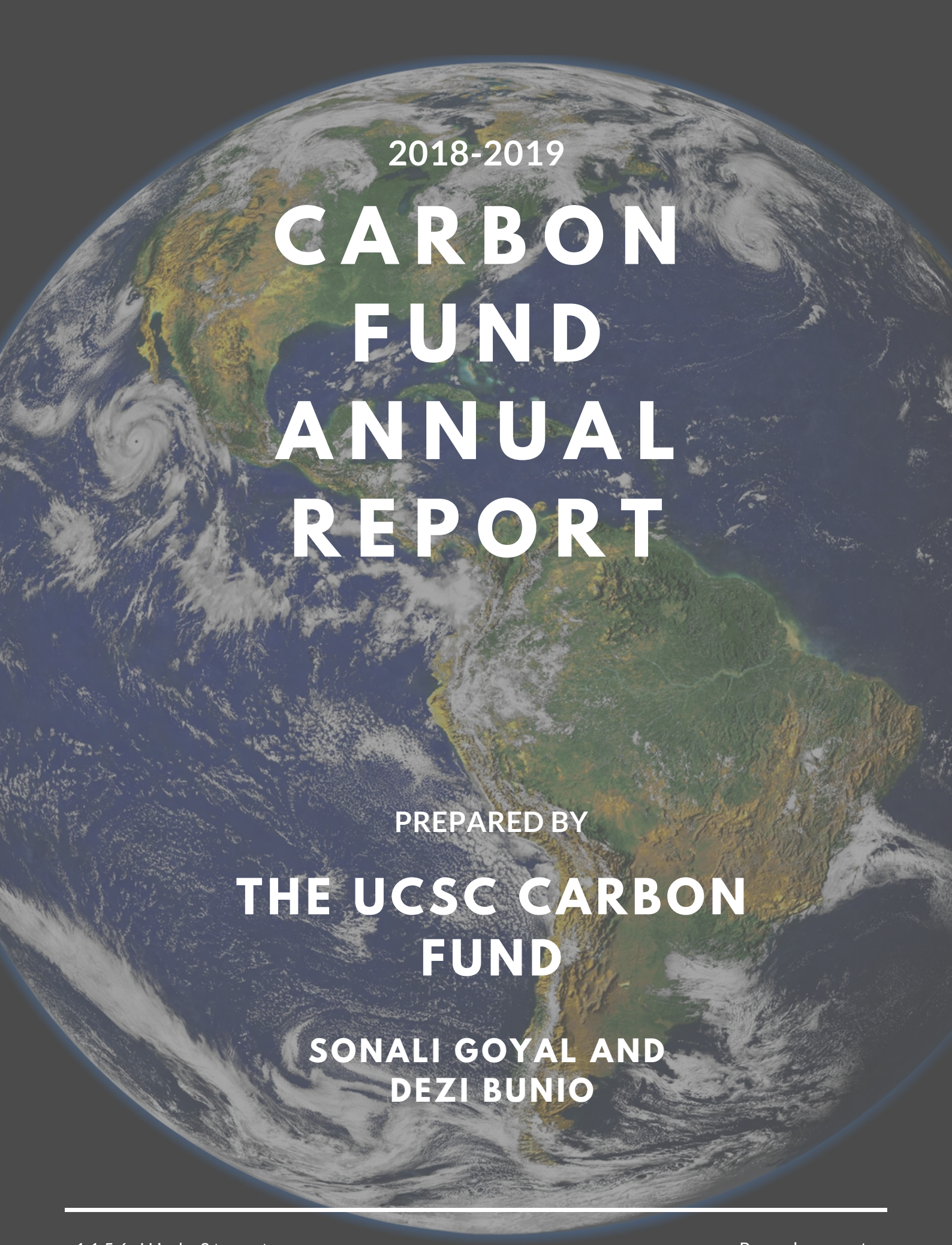

2018-2019

CARBON FUND ANNUAL REPORT

PREPARED BY

THE UCSC CARBON FUND

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Acknowledgments

The Carbon Fund, on behalf of the UCSC Sustainability Office, would like to thank the UCSC student body for their dedication to combating local climate change on campus by contributing to the Carbon Fund through a student fee. In addition, we would also like to thank the mentorship provided by Elida Erickson, our advisor and Sustainability Director, as well as our dedicated committee for making Carbon Fund work possible. We would also like to thank all Carbon Fund project managers for their commitment to reducing greenhouse gas emissions.

Thank you!

WHAT IS THE UCSC CARBON FUND?

In 2006, UCSC students passed Measure 26, a student fee measure that taxed students in order to buy Renewable Energy Certificates, which helped offset the climate impact of campus electricity purchases. In 2010, students changed the use of these funds through the passage of Measure 44, which now taxes every undergraduate and graduate student a $3 fee per quarter. This amendment allowed funds to be used for sustainability projects that will reduce the campus's carbon footprint, ultimately creating the Carbon Fund. Carbon Fund grants provide funding to projects that directly reduce greenhouse gas emissions, conduct relevant research, or carry out climate-related educational programs. The Carbon Fund supports the UC systemwide goal of being carbon neutral by 2025 and has about $125,000 annually to allocate to sustainability projects that will help reach this goal.

Grants have two funding levels: Macro grants are for projects requesting more than $5,000 and Micro grants are for projects requesting less than $5,000. Micro grants take 4-6 weeks to process while Macro grants, with additional paperwork and processing needed, takes 2-3 months. The Carbon Fund provides grant funding on a yearly cycle based on the academic schedule.

THE CARBON FUND COMMITTEE

Adam Millard-Ball
Faculty Advisor

Julia Cheresh
GSA Representative

Valeria Paredes
POC Sustainability Collective

Sarah Gilchrist
Energy Analyst

Elida Erickson
Carbon Fund Admin

Rona Berger
SO Member

Stephanie Lopez
Procurement Services

Sydney Repp
Enviroslug Representative

The Carbon Fund Committee is comprised of seven voting members who review project proposals from students, staff, and faculty in accordance with the Carbon Fund criteria and mission statement. The Committee also provides assistance to proposal authors in both project development and post-funding implementation. Carbon Fund Committee meetings are open to the public.

Interested students, staff, faculty, or community members may attend committee meetings but do not have speaking rights unless requested in advance. If you are interested in attending a meeting, please contact the Carbon Fund staff beforehand.

AWARDED PROJECTS: MICRO

WaterLab

Water scarcity and contamination are key problems environmentally and economically. This project aims to develop a deployable system for water treatment in off-grid applications to turn wastewater into potable water for combatting both of these issues.

Central Coast Farmers Sequester Carbon

In agricultural settings, soil carbon sequestration is not only a method of reducing levels of atmospheric greenhouse gases – it is also a critical opportunity to enhance soil fertility. Despite widespread interest in sustainable soil management practices, many low-income farmers of color throughout California's Central Coast lack the resources required for implementation of these practices. This project utilizes social science research methods to examine barriers in the implementation of best management practices and, through collaboration with regional farmer assistance providers, addresses these barriers through educational programming.

Toadstool Composting

Soiled cardboard pizza boxes are compostable and can be sequestered into Earth as soil carbon but are instead taking up limited landfill space that should be saved for items that cannot be repurposed. Our project seeks to align itself with Goal 2 of the Materials Management and Food systems section of the Sustainability plan by redirecting this waste and use it as a medium to create compost.

Sustainable Video Pilot Project

Students often think they need to drive alone to get home for the holidays to LA. Students don't know the various options available to use sustainable transportation. By becoming informed about the options, hopefully, more students will chose an alternative to driving alone and save greenhouse gas emissions. By using a video format, we hope to have a more accessible fun way to reach students and inspire them to make a change.

College 9 and 10 Garden Project

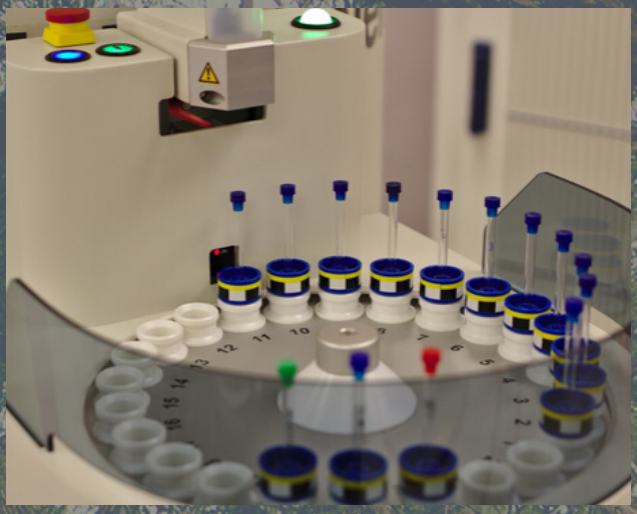
The purpose of the Garden Project is to create a similar awareness of land use as well as food systems awareness for the community of students at Colleges Nine and Ten; similar to the awareness that was created by gardens at other Colleges such as Kresge, Stevenson, and College 8. The spread of awareness throughout the community will encourage students to learn more about sustainable methods of providing food for themselves.

Energy Conservation in Residence Halls and Apartments

We are providing products (smart strips) and educating students to reduce their energy usage to lower carbon dioxide emissions. This helps to achieve the UC Carbon Neutrality by 2025 goal and helps lessen the university's contribution to climate change.

Energy Efficiency and Conservation in the Biology Teaching Laboratories

This project has been awarded a Carbon Fund grant in order to replace aging, energy inefficient freezer and refrigeration units with modern equivalents to achieve significant reductions in electricity use associate with lab classes, thus reducing the carbon footprint of teaching operations in Thimann Laboratories. The old refrigerators will be replaced with new, energy efficient ones at the end of the 2019 Spring quarter.



AWARDED PROJECTS: MACRO

Bhalla Lab ULT Freezer Replacement

This project proposes to purchase one minus 80 large freezer in the Bhalla Lab with a much more energy efficient unit. The current freezer unit in the Bhalla lab is a Thermo Fisher Scientific ULT chest freezer model ULT2090-5A. Labs account for about half of all energy used on campus, with about 10% of that energy being consumed by cold storage operations. By targeting energy efficiency improvements in labs, UCSC will make major strides toward reaching the systemwide goal of Carbon Neutrality by 2025.

TAPS Bike Library

The funds used to purchase additional bikes, sets of rechargeable front and rear lights, u-locks and cables, and replacement/spare parts for upkeep, will increase the UCSC community's accessibility to an alternative, low-carbon form of transportation. By giving more individuals an opportunity to use a bicycle, we are encouraging another means to reduce carbon footprints and hopefully shape their future transportation habits in a direction away from individualized auto-mobility.

Supporting Year Long Food Justice and Science Education Development In Calabasas Elementary Community Garden

This project applied for funds in order to provide families in the Community Garden with access to fresh organic food year-round. The funds will go towards a hoop house and greenhouse that can also serve as teaching spaces for agro-technology to be implemented in the CES science curricula and for community-based workshops and events. Building a solar powered greenhouse means that UCSC students going to CES for the garden class internship can enrich their lesson plans to include conversations about solar energy, greenhouse cultivation, irrigation into their garden-based science curriculum.

Bicycle Planning

This project received a Carbon Fund grant in order to supply the necessary wages to a professor who will help teach a class on bicycle planning. The class will promote greater bicycle use and safer streets in Santa Cruz by developing plans for protected bicycle lanes on key corridors in order to make Santa Cruz a more bike friendly city.

Stevenson Community Garden

This project was granted a Carbon Fund grant in order to create a demonstration garden that serves to educate the community on sustainable gardening techniques. The goal is to enlighten the entire community on how to make better use of available resources by performing the various techniques. Some of these techniques will be demonstrated on weekly garden workdays (Friday) in order to allow for hands on community engagement. In order to turn this into a demonstration garden, the focus will be on educating people about compost, water waste, and the process of gardening.

TAPS Vanpool

The primary purpose of this project is to provide the UCSC TAPS Vanpool Program with a new SUV Hybrid “Starter” Vanpool vehicle to be able to initiate and grow vanpools to new routes at a faster rate. The vanpool program allows UCSC affiliates to commute affordably to work or school with a subsidized transportation mode. This promotes equitable transport for all riders, no matter their cultural, gender, or socioeconomic backgrounds. This service provides a sustainable and equitable mode to access jobs and/or education.

PROGRESS REPORTS

This year, for the first time ever, projects were asked to submit a 6 month progress report, to see just how far projects were able to get in the first few months of receiving funding. This past December, we collected the first round of reports, from the projects funded in the 2017-2018 grant cycle. Click the links below in order to view their reports.

Gas Metering Upgrade
Carson College
Solvent Purification System
Solar Energy Allocation System
Green Building Council: LEED Online
College 9/10 Garden Project
Increasing Compost Education
Green Labs Equipment Retrofit
SVC Food Waste
Quarry Plaza Resource Recovery Zero Waste
Reduce Paper Towel Waste
Green Office Certification

FINAL REPORTS

We heard back from projects that were funded in 2017. Since each project receives 2 years to use their funding, most of the projects are completed or will be very shortly.

Eco Van

This project, adding solar panels and a composting toilet to a van for cross country transportation, was an overwhelming success. Since completing the additions to the van, it has been used to travel across California to acquire the footage for "Water Makes Us Wet: An Ecosexual Adventure", which has played worldwide, as well as for cross country travel to get the footage for an environmental art course that the project manager is teaching.

Vermicomposting Worm Bins

This project integrating vermicomposting into the arboretum greenhouse was completed in June 2018, and has been used continuously since. Despite some challenges getting the worms to stay alive, the project manager was able to adapt, making sure that the worms were always at the optimal temperature by adding a shed over the bin. Eventually, the project was quite a success, with continued student education on the benefits and use of vermicomposting.

Quantifying Urban Tree Canopy

This project was funded to use a sensor-based approach to quantify the "urban tree canopy" in Santa Cruz, and use the results to determine possible areas for new planting, with the intent to help meet the City of Santa Cruz goals for community greenhouse reductions with carbon sequestration. The project was completed in April of 2019, with positive results including a clearly demonstrated increase in urban tree canopy.

Green Labs

Through this grant, Green Labs was able to purchase and upgrade six -80 freezers. These freezers are amongst the largest energy consumers in the labs, with each freezer consuming as much energy as a small home. These replacements to more energy efficient technology will go a long way in helping reduce carbon emissions in the labs.

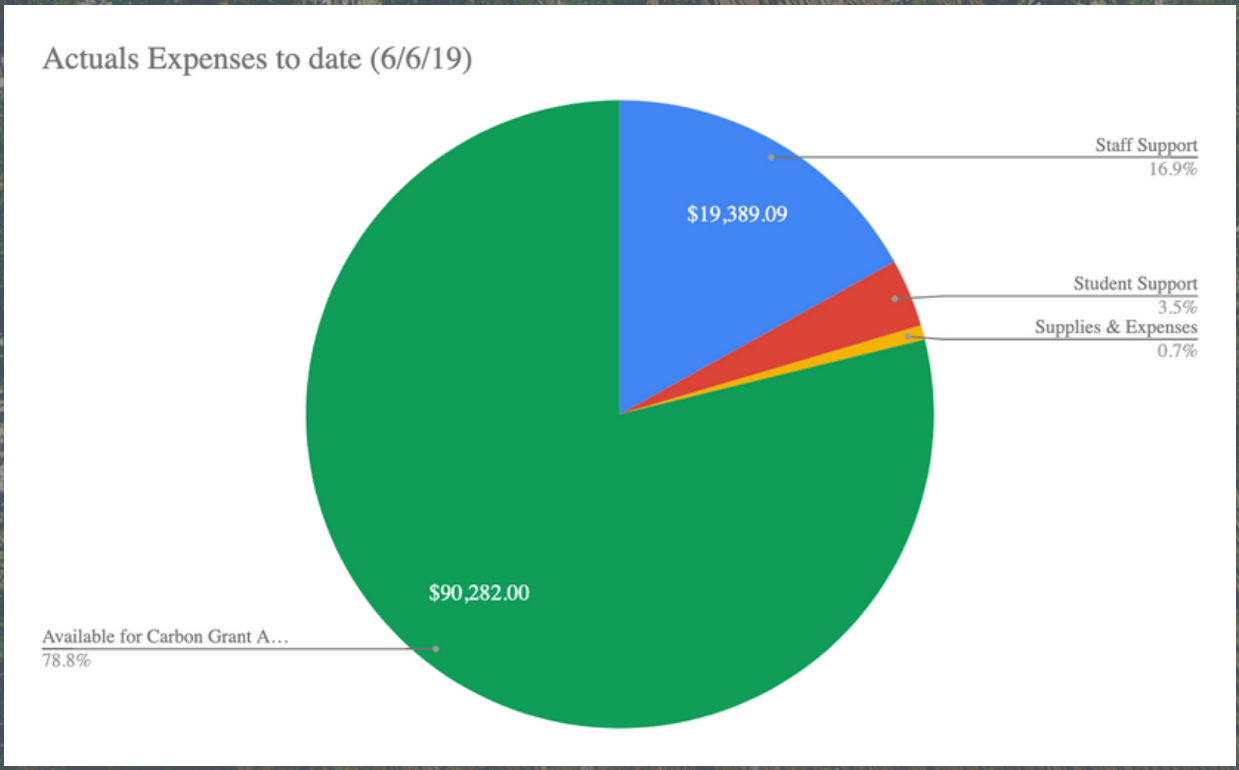
Data Visibility

The purpose of this project is to allow students living on campus to see and track their energy usage with meters that measure consumption in almost real time. The project is almost complete, with some small issues meaning certain values are read incorrectly, but the results are live, and residents of the Rachel Carson Apartments, Crown Merrill Buildings, and some other on-campus locations can now see their energy usage online. The final data should be available soon. Click *here* for campus apartments electric meter usage data.

EXECUTIVE SUMMARY

The Carbon Fund strives to implement our mission statement and allocate funds through demanding processes including: research on calculated life span of projects, carbon mitigation calculations, and cost per ton of carbon saved. In addition, we have other criteria to ensure a diversity of projects and project strength, including: project feasibility, project implementation plan, metrics and reporting, student involvement, direct savings aspect, quality budget, etc.

Below is a break down of the Carbon Fund budget, based on the funding from the 2018-2019 grant cycle.



The Carbon Fund committee received and considered 27 applications for both Micro (under $5000) and Macro (over $5000) grants from organizations across campus. $103,887 in funding was awarded to 14 projects.