

University of California, Santa Cruz

CARBON FUND ANNUAL REPORT

2019-2020

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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 \$150,000 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

The Carbon Fund Committee is comprised of eight 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.

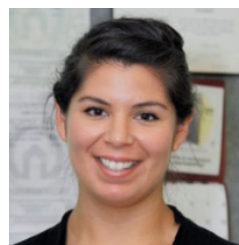
Carbon Fund Committee meetings are open to the public. Interested students, staff, faculty, or community members may attend committee meetings but do not have speaking rights unless requested in advance. If you are interested in attending a meeting, please contact the Carbon Fund staff beforehand.



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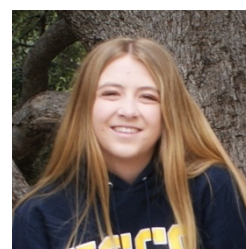
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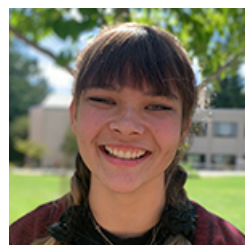
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Sonali Goyal
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Awarded Projects: Micro

Two UCSC Vanpool Bike Racks

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 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.



Reduce GHG Emissions of Satellite Campuses

Many university campuses have been attempting to "go green" and reduce their carbon emissions. This project explores similar initiatives that have been used at UCSC's main campus that can be used at satellite campuses. This involves directly engaging with faculty, staff, and students about carbon emissions and neutrality, giving all an equal opportunity to provide their own feedback and insights.



Transitioning Landscaping Equipment from Gas Power to Battery Power

Landscape equipment on campus is a large source of gasoline emissions. Even more polluting are the 2-stroke engines in small landscape equipment. These require an oil and gasoline mixture that makes it even more environmentally harmful than just gasoline. In order to minimize our carbon footprint and pollution, the landscaping team has begun to transition our equipment from gas power to battery power. This project was awarded a grant in order to purchase an extending hedge trimmer, a regular hedge trimmer, a string trimmer, a chain saw, and a backpack battery.



Smart Slug Bin

The purpose of this project is to implement a smart bin in our community that could reduce contamination from getting into the recycling bins. The Santa Cruz recycling center only accepts recyclables that are 6% or less contaminated. For a period in 2020, UCSC's recyclable contamination rate was too high, causing all recyclables to be sent to the landfill. In order to reach UCSC's Zero Waste 2020 goal, this project would provide a prototype to help achieve this goal, while also providing an educational experience for users.



FHS Grounds Electric Equipment

The money awarded in this project will support the purchase of two new electric FSH Grounds tools: one leaf blower and one weed whacker will need to be replaced within the next two years. Because of the high emissions of the current gas mower and blower, replacing the gas tools with electric alternatives will greatly reduce the emissions produced by FHS Grounds.



Integrating a Roller-Crimper at the CASFS farm for water retention and decreased CO2

There is a gap in knowledge about which specific cover crops work in our central coast region. Funds from this grant will be used to experiment with different strategies to roller crimp cover crops on the CASFS farm. Roller crimpers are tractor mounted implements that terminate “cover crops” by rolling them down and crimping their stems, stopping vascular flow. These cover crop residues can then be left as mulch to help provide nitrogen and retain water while also serving as a weed barrier allowing for the soil to not be tilled.



Awarded Projects: Macro

Fleet Incentives for All-Electric Sedans

UCSC Fleet Services has limited funds to spend on university vehicles. Fleet is committed to sustainability and has solely been purchasing hybrid sedans like Honda Insights and Nissan Altimas over the past two years. The awarded amount will serve to provide the first set of all-electric vehicles and create an incentive program for the further purchase of all-electric vehicles within the UCSC fleet.



Incubator Replacement Program

This project seeks to increase energy efficiency in UCSC labs by replacing inefficient, old incubators with newer incubators that will save money and power. Most labs have multiple incubators that run 24 hours a day, so by identifying incubators on campus that are in need of repair or replacement, UCSC can begin to reduce emissions in labs across campus.



Thinmann Autoclave

The Biology Teaching Laboratory (BTL) autoclave in Thimann labs is one of the most resource intensive equipment set-ups per value of service on campus. This project will purchase a smaller, more efficient, standalone unit that will not require use of a boiler. The purchase of this new autoclave will reduce the use of the existing inefficient system by 40% or more.



Energy efficient lighting in the Eloise Pickard Smith Gallery (Cowell College)

This project was awarded funds to add energy-efficient lights to the gallery in the Eloise Pickard Smith Gallery at Cowell College. The current state of the lighting system in the gallery is at a point where substantial investment is needed to maintain the current set up, and instead of maintaining an energy intensive light system, the gallery has decided to pursue a more sustainable route for gallery viewing.



2020 Freezer Incentive Program

Labs account for 1/5th of campus square footage but about 1/3 of all energy used. Prior Green Lab work identified that about 10% of lab energy is 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. This project was awarded funds to incentivize the purchase of 10 -80 ultra low efficient freezers in order to reduce overall emissions on campus.



Replacing the Biology Teaching Laboratory's energy-efficient and water-hungry industrial dishwasher

This project seeks to reduce energy and water use through the replacement of an aging industrial dishwasher serving numerous biology courses taught in Thimann Laboratories. A new dishwasher serves biology students by providing them with clean lab glassware essential to their course work, more efficiently and sustainably.



Ecology and Evolutionary Biology (EEBiology) E-Bikes

This project seeks to reduce the carbon footprint of local transportation for graduate students, faculty, visiting researchers and staff traveling between the Coastal Sciences Campus (CSC) and Science Hill on UCSC's Main Campus. This will be accomplished through the purchase of two electric bikes (e-bikes) that users can ride between campuses, or on short errands into town. The e-bikes will complement the existing EEBiology fleet and allow for sustainable transportation in the functions of daily activity.



Pallet Palace

This project will develop a methodology for home construction that reduces its cost, raw material use, and carbon footprint. Conventional construction is one of the world's major contributors to carbon emissions, stemming from the manufacture and transportation of materials as well as energy and water requirements during the building process. By embedding wooden pallets that would otherwise go to rot or be burned, this project will actually sequester carbon inside the walls of houses.

Conventional wood framing achieves something similar, except that it requires the extraction and processing of new materials.



Bike Program

This project is largely focused on giving students the necessary knowledge, skills, equipment and resources to bike safely, confidentially and more often for transportation. In the interest of reduced emissions and greater cycling safety, the Bike Program received funds to promote and engage in cycling education and provide increased numbers of bikes and safety gear to UCSC students.



Student Education Toward Fresh, Nutritious Food Production Through Increased Composting Efficiency

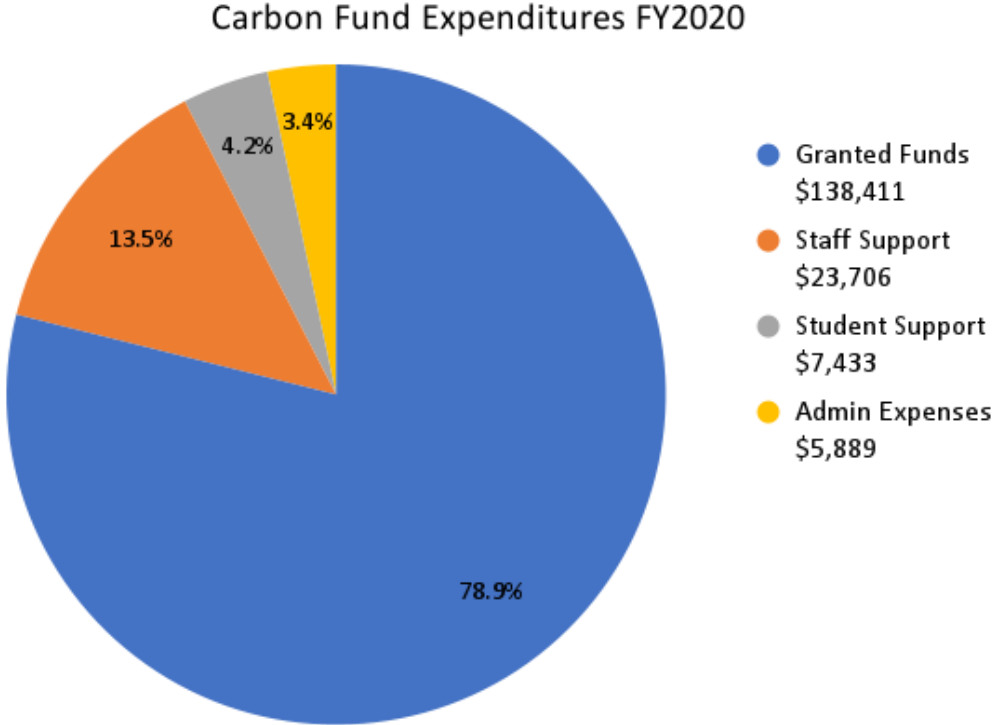
The Student Education Toward Fresh, Nutritious Food Production Through Increased Composting Efficiency project will increase the amount of food waste diverted from the landfill and educate the UCSC students on how to relate to their food waste. It will also allow students to gain the crucial knowledge of quickly turning old plant material (food scraps) into sustainable and organic fertilizer through vermicomposting.



Executive Summary

The Carbon Fund strives to implement our mission statement and allocate funds through processes which 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 quality projects including social justice, project feasibility, project implementation plan, metrics and reporting, student involvement, direct savings aspect, quality budget, etc.

Below is a breakdown of the Carbon Fund budget, based on the funding from the 2019-2020 grant cycle.



The Carbon Fund committee received and considered 35 applications for both Micro (under \$5,000) and Macro (over \$5,000) grants from organizations across campus. **\$138,411** in funding was awarded to 16 projects.