UNIVERSITY OF CALIFORNIA, SANTA CRUZ

CARBON FUND ANNUAL REPORT

2020-2021

Table of Contents

Acknowledgments

The Carbon Fund, on behalf of the UCSC Sustainability Office would like to thank the UCSC student body for continuing to combat climate change on campus through student fees. We would like to thank all Carbon Fund project managers for their commitment to reducing resource use and creating opportunities for students and the community.

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. The Carbon Fund provides grant funding on a yearly cycle based on the academic schedule.

THE CARBON FUND COMMITTEE

The Carbon Fund Committee consists of 10 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.

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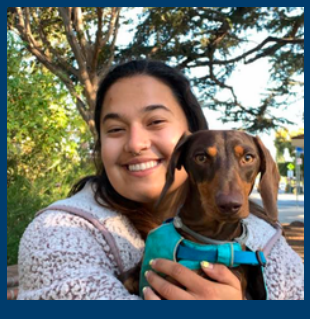
GSA Representative



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AWARDED PROJECTS: MICRO

FALL CYCLE

Bicycle Planning in Santa Cruz

This project will create and facilitate a bicycle planning seminar course which taught students how to develop conceptual designs to improve bicycle infrastructure in Santa Cruz. As part of the course, students developed conceptual designs to improve bicycle infrastructure in Santa Cruz.

The project encourages greater bicycle use and safer streets in Santa Cruz by developing plans for protected bicycle lanes on key corridors. UCSC students gained an experiential learning opportunity to get involved in practical, design-based urban planning.

Converting TAPS Maintenance Equipment to Electric

The project converted the use of existing gas powered maintenance equipment from gas powered to all electric to reduce emissions and allow the use of the newest technologies for maintenance staff.

This zero-emission equipment will reduce overall pollutants and GHG by approximately 2 metric tons CO2 annually.

AWARDED PROJECTS: MICRO

West Research Park (WRP) Bike Room Upgrade

The project used funding to adopt effective space-saving and security access control solutions to increase the number of indoor bike park stations where bikes can be comfortably and safely stored.

The overall scope of the project includes the physical room maintenance, electronic door lock, bike racks, bike repair station, and bike pump station installation in order to support the bike and e-bike commuters.

SPRING CYCLE

Fitness Center Energy Efficient Lights

This project supports reduction in energy and carbon emissions, increases safety measures, and ultimately provides greater access to health and wellness opportunities to our campus community.

Replacing the lighting in the Fitness Center to high efficiency LEDs, allows lights to remain on longer while reducing energy use. This allows for longer hours of operation, and as a result, engages a significantly higher volume of students, faculty, staff, and the community.

AWARDED PROJECTS: MACRO

FALL CYCLE

Carbon Sequestration, Dung Beetles, and Soil Microbes in Pasturelands of Central Coast California

This project will determine how different abundances of the dung beetle (Onthophagus taurus) impact the soil microbial community in ranch soils, with a particular focus on carbon sequestration.

This project aims to develop a low cost way for ranchers of all socioeconomic status to improve their carbon sequestration abilities. Soils that sequester more carbon are also healthier and more productive, so this research will also help farmers increase the health of their land.

Thimann Incubators

Fruit fly incubators are essential for the growth and maintenance of fruit fly stocks that support upper division biology laboratory courses on Science Hill. The current 1990s era fly incubators use traditional compressors for cooling. These traditional incubators are less energy efficient than modern equivalents equipped with Peltier elements.

The project will replace the 1990's era fruit fly incubators with modern equivalents which reduce the lab's energy use and carbon footprint.

AWARDED PROJECTS: MACRO

Gas Mower Replacement

The project reduces the need for fossil fuels by replacing the gas mowers used by UCSC Grounds Maintenance.

In addition to eliminating the economic and environmental costs of fuel, this achievement demonstrates that UCSC wants to be proactive in regards to climate change.

Solar Table

The purpose of the project is to demonstrate UCSC's commitment to a culture of sustainability and to show our support for the renewable energy industry and innovative products.

Having this table on campus allows students to actively participate in the utilization of solar energy and experience firsthand what sustainability means to the school.

CZ Redwood Grove Bedroom Relamping

The project is responsible for identifying and replacing light fixtures in the Redwood Grove buildings. The use of LED lighting will reduce energy costs.

AWARDED PROJECTS: MACRO

Cargo Ebikes for Parenting Students: Sustainable Transportation Solutions for Covid and Beyond

The objective of this project is to create a healthy and environmentally friendly solution to transportation issues experienced by parenting students at Family Student Housing. This project provided 6 fully outfitted cargo e-bikes that can hold up to three children.

The bicycle loan will be on a yearly basis and available to undergraduate and graduate students. The program mimics what is already established for bikes loaned out to students through the Bike Lending Library run by TAPS.

Wonderfil

Wonderfil aims to design and build two Wonderfil refill kiosks on UCSC's campus. The kiosks work by allowing students to purchase body care products, such as shampoo, conditioner, and body wash, and dispenses the product into a refillable container.

CR/MR Lamp Replacement Project

The project will replace the aging living room lighting system from 25+ year old 100 watt floor lamps to energy efficient 9 watt LED floor lamps in order to conserve energy and money while reducing greenhouse gas emissions.

On a yearly basis, the usual incandescent light bulb will release 4,500 pounds of carbon while LEDs will only emit 451 pounds of carbon.

AWARDED PROJECTS: MACRO

SPRING CYCLE

No-till farming transplanter

Current agricultural practices cause major environmental challenges ranging from, water pollution, to soil runoff and greenhouse gas emissions. This project seeks to address these with no-till farming practices, which have been shown to decrease soil erosion, improve soil quality, increase water holding capacity, and decrease GHG emissions. Funding will be used to purchase a no till transplanter.

Energy Efficient Refrigeration for the Slug Stop

The new refrigerator and freezer will use fewer kilowatt-hours than the two existing refrigerators and will use the preferred R290 refrigerant. These efforts will reduce its Global Warming Potential and greenhouse gas emissions.

Healthy Beverage Initiative: Hydration Station installation

The project goal is to increase water bottle re-fill stations, also known as hydration stations, on the UCSC campus in strategic locations. With increased access to hydration stations and education around the benefits of drinking tap water, students will be more inclined to drink tap water.

Increasing access to hydration stations will not only improve the health of students on campus but also reduce the demand for on-campus single-use plastic beverage bottles.

AWARDED PROJECTS: MACRO

Organic Waste Digester

The project aspires to pilot an organic waste digester in one of UCSC's dining halls on campus. If the project is successful, they hope to assess the potential for expanding this technology all across UCSC's dining halls.

The digester would replace our typical composting approach, as it would act as a pulverizer for the over 40,000 pounds of food waste that the Colleges Nine and Ten Dining Hall and University Center produces per month.

Instead of taking out the food waste in large refuse trucks that average 2.53-6.5mpg and hauling it all the way to Marina, CA to compost it, the food waste goes down the digester's drain and is sent to Santa Cruz's wastewater treatment facility, where the waste will contribute to the facility's production of biogas.

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 2020-2021 grant cycle.