

Climate Action Fellowship, 2019-2020

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Introduction

The culture of sustainability at UCSC showed itself to me even before I started attending classes. During my freshman orientation, we had just completed our tour and were given a meal, and when I instinctively asked for a trash can to throw my utensils into, my tour guide almost laughed. She told me we were not really using plastic, and I could compost everything we were using.

From then on I could see the culture of sustainability the campus had. Compost was heavily encouraged in the dining halls, with trash cans not even being an option. Recycling bins were more commonplace than garbage bins, and there were even students on social media promoting ways to live a more sustainable lifestyle while being a college student.

As a CNI fellow, I worked on multiple projects including but not limited to:

Projects

Million LED Challenge Promotion: The million LED challenge was started by the UC, which allows students, staff, faculty, and alumni to purchase subsidized sustainable LED bulbs that last longer than conventional halogens.

Project Goals: To create awareness throughout the UCSC community of the Million LED Challenge and its benefits.

Results and Outcomes:

- Ordered Million LED Bulbs to replace appropriate bulbs in the school's back stock
- Promoted MLC in the school's newsletter
- Social Media spread, using memes to create a relatable/comedic atmosphere

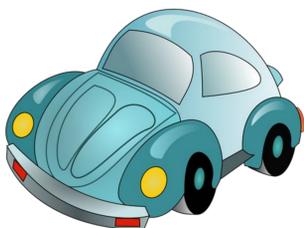


One of multiple Million LED Challenge memes

Telecommuting website: With the current pandemic occurring, I thought it would be a good idea to create a research based website that helped provide some of the benefits and drawbacks of telecommuting, since that is what people are currently doing at home.

During my research, I found that the benefits to telecommuting far outweigh the negatives, and incorporating telecommuting into the weekly routines of workers when life goes back to normal would allow for more sustainable lifestyle, with a strong reduction of carbon emissions. We calculated that approximately 8% of commuting emissions could be reduced with increased telecommuting after COVID.

My research was incorporated into the Vice Chancellor of Business and Administrative Services COVID contingency and recovery plan.



Green Building Fee - Proposal for LED Lights in the Student Health Center

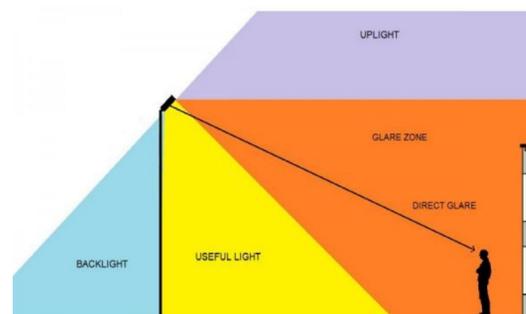
In 2008, the students of UCSC voted in support of a \$5.20 quarterly fee in order to fund the new Cowell Health Center being LEED Silver. Twelve years later, we're finding that there is a surplus in funding to the tune of \$520,000. This surplus is designated as funding to be used for sustainable green building projects on campus.

I created a proposal, taken into consideration by the interim Vice Chancellor, to incorporate LED lights in the Student Health Center. Using square footage estimates, I calculated that the cost would be well within the limits of the Green Building Fee fund, allowing for a student-funded health center to be LEED-Silver and use sustainable, efficient, LED bulbs. The bulbs were found to save money over time with reduced maintenance and replacement costs for bulbs, as well as lower energy costs associated with LED bulbs.

Light Pollution Assessment at UCSC's Coastal Science Campus

Due to resident concerns of excessive light pollution at UCSC's coastal campus, I conducted a Light Pollution Assessment at the Coastal Science Campus. I surveyed all the bulbs in the parking lot, inside the buildings, and outside.

Results: Using the common BUG assessment (backlight, uplight, glare) I found UCSC's coastal campus does not produce much light pollution in the area at all. I did identify a flagpole with excessive light pointing upwards that our Energy department will investigate. The predominate light pollution in the area seems to come from a neighboring electronics company, with the coastal campus emitting little light pollution.



Example of backlight, uplight, glare

Solar Picnic Table (In Progress)

To help promote the culture of sustainability on campus, my goal is to have UCSC install a solar picnic table in a popular area of campus with plenty of sun. Working outside is a norm at UCSC, so this table would allow users to charge their devices while enjoying the outdoors. When polled, students have expressed interest in such a table, and all students asked indicated that they would use such a table, if accessible. Such a project is not without precedent, with schools such as the University of Michigan incorporating one such table.



As for materials, I am looking to purchase a table made in the USA, with recycled materials that would be able to withstand the rainy season.

My hope is to submit a Carbon Fund proposal for the tables in the Fall quarter and complete installation next academic year.

Conclusion

Working as a CNI Fellow has opened so many doors for me, allowing me to improve essential professional skills such as project management and budgeting. This year was full of unexpected events, and was cut short by the pandemic. I started a lot of projects, that I hope to continue next year and see expand before I graduate.

The way we live our lives is going to permanently change even when we are out of the immediate threat of COVID, and I hope to ensure that a reduction in one's carbon footprint can be incorporated into this new lifestyle. Using more sustainable living methods such as telecommuting, reducing light pollution, or even simply converting a home or office's light bulbs to LED bulbs can help us reach Carbon Neutrality.



Coastal Science Campus where I conducted a lighting survey

Future Goals

My goal is to carry my CNI Fellowship into the next academic year, and make sure my final year at UCSC incorporates more projects expanding the Million LED Challenge, and working to help create more of a lasting culture of sustainability on campus. This year, the power outages, strikes, and pandemic threw a lot of uncontrollable circumstances our way. I have a great amount of optimism for the next academic year, and am excited for the opportunity to show UCSC and the UCOP what Carbon Neutrality means at UCSC.

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