

INTRODUCTION

Campus goals

The University of Colorado Colorado Springs continues to advance its sustainability goals through the 2030 Sustainability Strategic plan, which [can be found here](#). This plan is the third edition of a sustainability strategic plan, each with goals more ambitious than the last. The plan rests on four core strategies: leadership, teaching and research, operations, and engagement with the wider community. The strategies include:

1. Foster a culture of sustainability at UCCS and beyond.
2. Cultivate excellence in research and teaching related to sustainability, climate change, energy, and environmental justice and equity.
3. Model sustainability, efficiency, and innovation in our campus operations, infrastructure, and facilities management.
4. Engage UCCS students, faculty, staff, and members of the Colorado Springs community with events and programming related to sustainability.



In addition to the 2030 Sustainability Strategic Plan, UCCS is driving toward sustainability goals outlined in the Climate Action Plan (adopted by the Chancellor and Cabinet in April 2022), the [UCCS 2030 Strategic Plan](#) (approved by the Board of Regents in February 2020), and the CU Strategic Plan (adopted by the Board of Regents in 2021).

Lastly, UCCS has committed to sustainability goals with external organizations, including the Association for the Advancement of Sustainability in Higher Education and the United Nations Sustainable Development Goals.

Strategic Plan Goals

UCCS has incorporated the CU System Strategic Plan goals on sustainability and associated sustainability metrics into its planning efforts. UCCS committed to replacing part of its fleet with electric vehicles. The campus ordered a 2022 Ford F-150 Hybrid to replace a 2005 Ford Explorer and is on track to replace one diesel bus with an electric battery bus by 2026. UCCS generates 0.015% of its energy through renewable energy sources and offsets another 34% through Renewable Energy Credits (RECs). By 2026, UCCS committed to generating 2% of its energy through renewable energy sources on-site and an additional 40% through RECs.





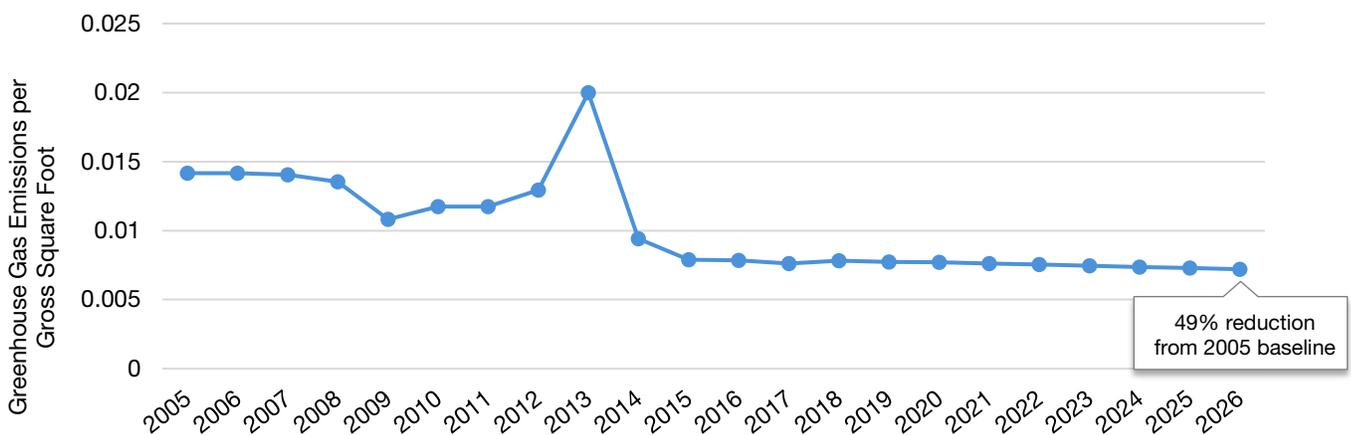
Additionally, UCCS is undertaking several capital improvement projects that will reduce greenhouse gas emissions.

- Replace existing lighting with LED:
 - Pedestrian Spine (completed)
 - Gateway Garage (completed)
 - Lot 580 (pending)
 - Gallogly Event Center (pending)
- Upgrade roof, HVAC, and controls:
 - Columbine Hall (pending)
- Engineering Building Renovation
 - Energy efficiency improvements to reduce annual operating costs by an estimated \$50,000 per year
 - Addresses \$13.0 million of deferred maintenance

SUSTAINABILITY METRICS

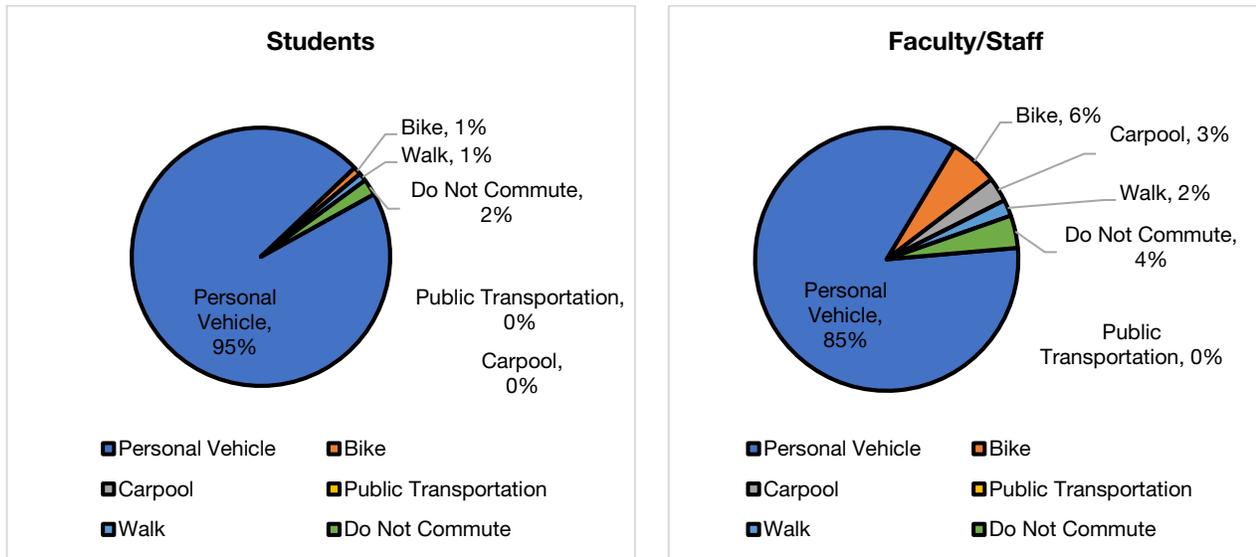
Greenhouse Gas Emissions

One of the sustainability goals for UCCS is a 49% reduction in greenhouse gas emissions from its 2005 baseline by 2026.



Transportation

In the fall of 2020, UCCS conducted a Transportation Survey to determine how people commute to campus. The survey had 169 respondents, 53% students and 47% staff/faculty. As shown in the charts below, most students and faculty/staff use a personal vehicle to commute to campus. Notably, neither group uses public transportation to travel to campus. This is likely due to the timing of the survey. In the fall of 2020, many public transit options were not viable means of transport due to the pandemic.



Note: This survey represents less than 1% of the total UCCS population and is not a representative sample. Survey results are anecdotal.

In March of 2022, UCCS was named one of the [most bicycle-friendly college campuses in the country](#) by The League of American Bicyclists. The League also awarded the campus with the Bicycle Friendly University Silver Award. These accolades would not have been possible without the support of students, faculty, staff, and community members on the Bicycle Advocacy Committee. The campus community has more secure bicycle storage options on campus with the installation of bicycle racks in the gated area in Alpine Garage. The racks can accommodate 30 bicycles and add to 1,040 bicycle parking spaces on campus. UCCS is investigating a partnership with a local bike-share organization, Pike Ride, to establish three electric bike hubs on campus.

UCCS has four electric vehicle charging ports in the Alpine Garage. The campus’ energy performance contractor, Iconergy, will install two more charging ports for free in the next two years. They will also recommend service providers that maintain the infrastructure and manage the payment system. The Office of Sustainability collaborated with a Bachelor of Innovation team to research emerging EV technologies, conduct an electric vehicle audit, and develop a marketing campaign to increase awareness about current EV charging infrastructure.

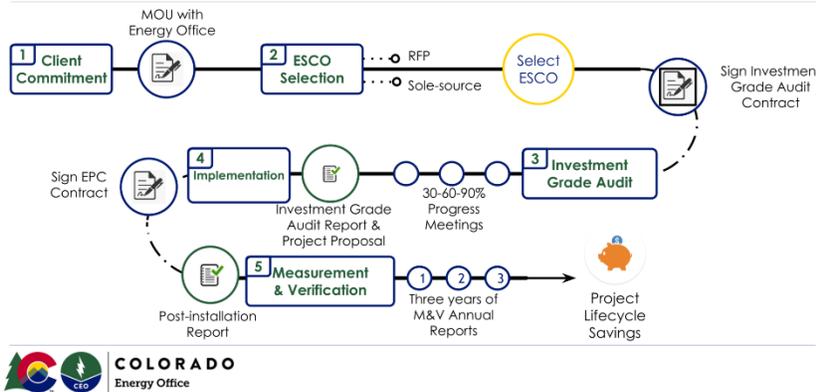
Energy Consumption

Energy Use Intensity

UCCS continues to decrease its energy use intensity (EUI). The current EUI is 50 kBtu/GSF. This significantly decreased from the 2005 baseline of 93 kBtu/GSF.

Energy Performance Contracting

EPC: 5-Step Process



Energy Performance Contracting is a creative model for funding and implementing capital improvement upgrades, which allows entities to use future cost savings to fund projects. UCCS started its first Energy Performance Contract with Iconergy in January 2022. It is early in the process, and the campus is still in the data collection phase.

UCCS is partnering with Colorado State University’s Institute for the Built Environment (IBE) to provide UCCS with sustainability strategy support and lead the development and implementation of behavior management programming aimed at deepening the outcomes of Iconergy’s energy performance contract. IBE’s scope of services includes the following:

1. Sustainability Strategy Support
2. Measurement and Verification Participation
3. Stakeholder Interviews
4. Behavior Program Messaging and Graphic Design
5. Stakeholder Focus Groups
6. Pilot Plan Development, Implementation, and Review

BUILT ENVIRONMENT

Deferred Maintenance

Like all CU campuses, UCCS numerically grades the condition of building components and systems. The identification of condition and needs is used to estimate replacement cost. Building value and the corresponding replacement/improvement need are expressed as a score. A Facilities Condition Index (FCI) score of 100 is like-new condition. Buildings with a low FCI need improvement.

The FY 2023-24 average FCI score at UCCS is 55. The campus goal is for each building to have an FCI score of at least 85. UCCS’s FCI scores range from a low of 42.4 for the Engineering Building to a high of nearly 100 for Mountain Lion Stadium, Copper House, and Eldora House Residence Halls, all newly constructed buildings.

Prioritizing Renovations and Repairs

The Facilities Audit program allows for a methodical approach to understanding capital needs. Comparing various building FCIs allows for needs prioritization. Limited funding is then targeted to the most critical needs, targeting health and life-safety concerns first. The opportunity to replace the old with new, more energy-efficient equipment is prioritized as the equipment is upgraded or replaced. Often, system improvements can be accomplished with new technology that allows for better energy utilization or a completely new way of meeting the building’s cooling and heating needs.



Facility Condition Audits

Facility condition audits were undertaken as a part of the energy performance contracting process in fall of 2022. New data on FCI scores will be available to inform future campus decisions prioritizing deferred maintenance.

LEED Buildings (and beyond)

Across the UCCS campus, there are [14 LEED Gold buildings](#). LEED benefits include lower operating and life cycle costs, lower water and energy resource use, reduced greenhouse gas emissions, serving as a living laboratory and foundation for future sustainability efforts, and demonstrating the university's commitment to sustainability and the health and wellness of building users.

The most recent LEED Gold-certified building was the Hybl Sports Medicine & Performance Center. Since its completion, the building has received positive press coverage on the changes it is making to the UCCS community.

- [Cross country team excels at the national meet with the help of physiology faculty at the Hybl Center](#)
- [Hybl Center offers a new perspective on fixing your golf swing](#)
- [Hybl Center's altitude chamber brings athletes to new heights – literally](#)
- [Hybl Sports Medicine and Performance Center offers a tailored fall training program for high school athletes](#)
- [The opening of William J. Hybl Sports Medicine and Performance Center begins a new era for sports research, education, treatment, and training](#)

Osborne Center for Science and Engineering	→
Lane Center for Academic Health Sciences	→
Gallogly Conference and Events Center	→
Roaring Fork	→
La Plata	→
San Juan	→
Centennial Hall	→
Academic Office Building	→
Gallogly Recreation and Wellness Center	→
Copper and Eldora	→
Cucharas	→
Ent Center for the Arts	→
Hybl Sports Medicine and Performance Center	→
Alpine Field	→

The 15th LEED Gold project on UCCS's campus will be the Engineering and Applied Sciences Annex Addition. Per its [Program Plan](#), the design and construction will be completed in May 2023, and occupancy will be in August 2023.

Associated Savings

These buildings are typically 25% or more efficient (depending on the building) than a typical facility and, therefore, more cost-effective. They are also, typically, much more well designed for users and provide a better environment for work and collaboration.



Space Utilization

Many UCCS employees and students were not on campus full-time for the past two years. UCCS formed a Task Force to develop Future of Work guidelines for the post-COVID world. The Future of Work Task Force recommendations are:

1. Bolster recruitment and retention of faculty and staff
2. Remote, Hybrid, 4-10, and 9/80 schedule options for Fall 2022
3. 3+ days on-campus requirement for dedicated office space
4. Opportunities for colleges, divisions, and departments to maximize the use of space
5. Increased opportunities and flexibility for course schedule offerings to students
6. Implement Fall 2022 → Assess and adjust Spring 2023

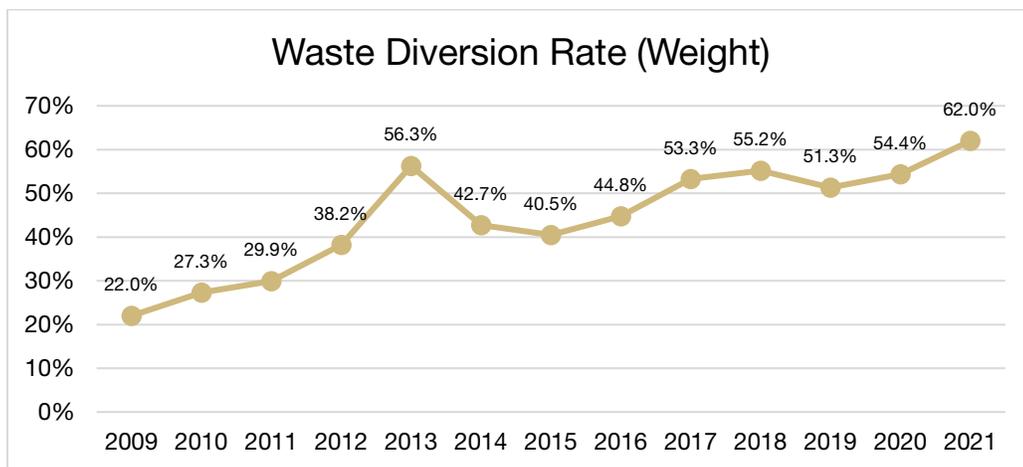
It is still unknown if there will be energy savings from the pandemic and post-pandemic months and years. However, UCCS will continue to monitor for lessons learned.

Green Labs

Over the past five years, UCCS has implemented sustainable practices in its labs. This reduces energy consumption, water consumption, and hazardous waste. The campus is upgrading and fine-tuning the HVAC systems as part of an energy performance contract. UCCS also turns off equipment, raises temperatures on deep freezers, operates fume hoods efficiently, and conducts small experiments to reduce waste.

WASTE DIVERSION

The FY 2020-21 waste diversion rate was 62.0% at UCCS. This is a 7.6% increase from FY 2019-20 and significantly, above both the Colorado average (15%) and the national average (32%). The UCCS average weekly waste per student is 0.78 pounds.

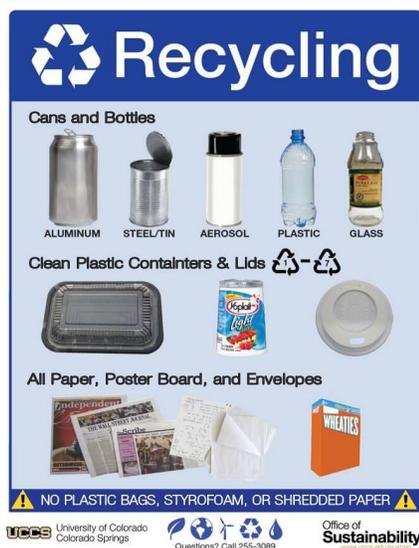


Note: UCCS's FY 2019-20 and FY 2020-21 waste diversion rates had significant impacts from COVID-19.

Recycling

UCCS has a series of Zero Waste Campaigns designed to increase the waste diversion rate.

- I Don't Know Bins:** Thanks to a partnership with Team Green in the Kraemer Family Library (KFL), UCCS has placed bins on two floors of the KFL. The campaign is designed to learn what items students don't know whether to compost, recycle, or throw away. With this campaign, Team Green hopes to show the importance of recycling and composting in various buildings around campus.
- Espresso Yourself:** Espresso Yourself is a campaign to encourage the UCCS community to bring their own coffee cup to campus coffee shops. Community members that bring their own mug receive a 10-cent discount on their beverage.
- Building Waste Audits:** Building waste audits tell the campus about occupants' habits and lead to changes in infrastructure and new educational campaigns. Building waste audits led UCCS to focus efforts on reducing coffee cups.
- Composting Infrastructure:** Thanks to a partnership with the KFL Team Green and Facilities Services, UCCS has composting services in the library. Students managed this project by working with the custodial staff to reduce the number of bins around the library, which reduced labor needs while also increasing the waste diversion rate in the building.
- Move-Out Donations:** UCCS partners with local organizations to accept clothes, appliances, furniture, canned goods, and more from students moving out of the residence halls. This campaign resulted from a proposal made as part of the CU President's Sustainable Solutions Challenge.
- Waste Education:** UCCS posts signs explaining what to compost, recycle, or throw away and encourages the use of the "I don't know" bins.





- **Food Waste Audits:** Food waste audits in the dining halls help to understand better how to reduce food waste. On average, UCCS does a great job not wasting food, but there is room for improvement. At recent audits, there was less than 1.7 lbs. of food waste over 100 plates. These audits inform Dining and Housing Services about what type of food could be portioned differently.
- **Mt. Trashmore:** Mt. Trashmore was a waste audit from a day's-worth of UCCS trash. Over 50% of UCCS's trash could have been diverted to composting or recycling.
- **Students for Zero Waste Conference:** Students have attended and presented at [Post Landfill Action Network \(PLAN\)](#) Students for Zero Waste Conference and the [Association for the Advancement of Sustainability in Higher Education \(AASHE\)](#). Students can apply for conference funding through the [Green Action Fund](#).



WATER CONSUMPTION

The [Sustainability Strategic Plan](#) identifies the following water conservation objectives:

- Institute water conservation practices and planning throughout the campus to reduce both domestic and outdoor water use
- Decrease utility costs
- Model effective stormwater management.

The plan identifies several water conservation measures:

1. Decrease outdoor water use by 10%
2. Decrease indoor water use in existing buildings by 10%
3. Develop a comprehensive stormwater plan that mitigates stormwater runoff and decreases impervious surfaces

Water consumption

UCCS used over 43 million gallons of water in FY 2020-21. Across the campus, this breaks down to 14.5 gallons/GSF.

Irrigated Landscape

Wherever possible, UCCS uses Xeriscaping. Xeriscaping is a style of landscaping requiring little or no irrigation or other maintenance. It is commonly used in arid regions, like the high desert, where UCCS is found.



COMMUNITY ENGAGEMENT

In 2021, UCCS students and alumni planted 150 trees on campus to celebrate the City of Colorado Springs' 150th anniversary. This project was funded by a Colorado Tree Coalition grant, and generous partnerships with local nurseries and tree farms.

The 150 trees included 86 trees at the William J. Hybl Sports Medicine and Performance Center, 40 trees along Clyde Way, and 30 trees near Mountain Lion Field, the Ent Center for the Arts and the pathway leading to the Mountain Lion Park.



Additionally, to do their part to improve local water quality, UCCS has adopted the Templeton Gap Floodway that is adjacent to east campus as part of Colorado Springs [Adopt-A-Waterway program](#). To be in the program, UCCS has agreed to two volunteer events each year to clean up the waterway. The Office of Sustainability hosts one event each semester.

In 2021, 57 volunteers pulled 73 bags of trash and debris out of the Templeton Gap Floodway. It was the largest single haul in the program's eight-year history. Creek Week is the state of Colorado's largest watershed-wide clean-up event from Palmer Lake to Pueblo. The Fountain Creek watershed flows from Palmer Lake into the Arkansas River to the Mississippi River and eventually to the Gulf of Mexico.



Pedal Our Past interpretive group ride with Dr. John Harner is a 8.5 mile loop featuring historical markers in celebration of the City of Colorado Springs' 150th anniversary. Dr. Harner, professor of geography and an all-season bike commuter, drew on material from his recent book, "Profiting from the Peak: Landscape and Liberty in Colorado Springs," which details the growth and expansion of Colorado Springs.

The UCCS bike tour explored the following historical markers:

- The Lincoln Center
- AT&SF Railroad
- Palmer Park
- Cragmor Sanitorium
- Subsidence
- Alexander Film & Aircraft



5th Annual Sustainability Summit

The keynote speaker for the Summit was Patricia Cameron, Founder and Executive Director of Blackpackers, a Colorado Springs nonprofit organization “meeting those at the intersection of underrepresentation and economic vulnerability.” The Blackpackers mission is two-fold:

- 1) To provide gear, outdoor excursions and outdoor education for free or at subsidized cost and
- 2) To connect participants with volunteer opportunities, internships, jobs, and post-secondary education resources to create a pipeline to outdoor industry careers. The Summit also featured presentations on sustainability research and projects and obtaining feedback on components of the UCCS Sustainability Strategic Plan.



Academic Efforts

Sustainability-related courses

Across UCCS, students have many options to study sustainability. Approximately 72% (28 of 39) of departments offered a sustainability-focused or sustainability-inclusive course in FY 2020-21. There are 84 courses at the undergraduate level and 19 courses at the graduate level.

One hundred percent of undergraduate students are enrolled in a sustainability-focused course per the UCCS General Education requirement program, [Compass Curriculum](#). As part of this commitment, UCCS requires all students to take a course discussing sustainability to help them better understand human development and the natural environment. In some courses, the discussion of sustainability is deeply integrated into the practices of that career or field of study, while other courses approach sustainability from a broader disciplinary perspective.

In sustainability courses, students will learn about key sustainability principles, including social equity, environmental protection, and economic development. Ideally, students will gain knowledge that helps them to promote sustainability in their place of employment (e.g. support diversity, environmental activities such as recycling, reduction of waste, etc.). Students must take one course to meet their "sustainability" requirement.



Research

Grants

As previously mentioned, UCCS received a grant from the Colorado Tree Coalition for \$1,500 to plant 150 trees across campus in the Spring of 2021.

Additionally, the campus received an \$8,500 grant from the Colorado Garden Foundation for the [UCCS Sustainability Demonstration House](#). At the start of the spring 2015 semester, the Office of Sustainability moved into what was once the Patterson House at 12 Cragmor Village Drive and created the Sustainability Demonstration House. There are already several new sustainable demonstrations in and around the building, including xeriscaping, solar film on the windows to reduce glare and heat entering the southern windows, a refrigerator that meets the latest stringent Energy Star efficiency requirements, and a Nest thermostat, which is programmable and activates features to save additional energy based on occupant habits. The windows provide ample daylighting such that lights are mostly not needed.

Publications

Between July 2020 and December 2022, UCCS faculty and students produced 57 sustainability-related publications by 29 authors.

Student Involvement

The Green Action Fund (GAF) is a student-fee-funded organization with a mission to reduce the ecological footprint of UCCS and promote a sustainable environment and social and economic values through various student, staff, and faculty projects. GAF supports projects that align with the UCCS Sustainability Strategic Plan and the following five pillars:

- 1) Reduction of ecological footprint
- 2) Increased student involvement
- 3) Education and outreach
- 4) Long-term feasibility
- 5) Scope of impact

In 2022, the GAF Committee, comprised mostly of students, approved the following projects:

- Research plant-based diet intervention and awareness
- Build a secure bike storage facility
- Install energy-efficient theater lighting
- Repurpose materials for a puppet show
- Develop an electric motor for formula one race cars
- Create a reading group focused on sustainability topics
- Research the sustainability of campuses in the CU system
- Demonstrate steel and rubber roofing shingles
- Study soil and native plants for ecological restoration

The Students for Environmental Awareness and Sustainability (SEAS) Club fosters student awareness of environmental issues and advocates for sustainable actions at the individual, campus, and community levels through



peer engagement, campus activities, and community outreach. The club received a grant from the Green Action Fund to create a reading group for students to learn, discuss, and apply sustainability principles and practices.

The Sustainability and Conservation Club seeks to implement student ideas and projects on campus to create a more sustainable and eco-friendly campus. The club has five active members and has implemented a plastic bag collection and diversion program in the resident halls.

Several student teams in the Bachelor of Innovation program partnered with a campus department and local government to work on sustainability projects. One team studied electric vehicle charging stations for the UCCS Office of Sustainability. Two more student teams researched electric vehicle incentive programs and waste collection and transportation services for the City of Colorado Springs Office of Sustainability.

Student Internships

During the fall of 2021 semester, three UCCS seniors became the first interns to participate in the inaugural Fountain Creek Brewshed Alliance Internship, where they brought sustainable practices to three Colorado Springs microbreweries. The new internship program is a partnership between the Fountain Creek Watershed Flood Control & Greenway District, the UCCS Office of Sustainability, the T. Rowe Price Career and Innovation Center, the Colorado Department of Public Health & Environment (CDPHE) Sustainable Breweries Program, Colorado Springs Utilities and three local breweries — Fossil Craft Beer Company, Phantom Canyon Brewing Co. and Storybook Brewing.

The Office of Sustainability supported several internships in 2022. A biology student served as the Ozone Garden Intern during the summer of 2022. The student observed plants exposed to ground-level ozone and contributed their data to a national study. Another student was hired as the Transportation and Sustainability Assistant for the Department of Parking and Transportation Services. They will focus on growing awareness and engagement in bicycling and driving electric vehicles on campus.

Participation in Taskforces and Committees

On Campus

- Green Action Fund Staff Advisor: Mentor the grant coordinator, oversee the budget, attend the general and executive meetings, and advise the strategic direction and daily operation of the student fee-funded organization.
- Sustainability Committee Member: Attend monthly meetings, give updates, and contribute to projects.
- Bicycle Advocacy Committee Member: Attend monthly meetings and provide project updates.
- Parking and Transportation Advisory Board Member: Evaluate parking violation appeals and give updates on relevant sustainability projects.
- MLK Days of Service and Action Planning Committee Member

Off-Campus

- Pikes Peak Leaders in Sustainability: Host a monthly meeting for sustainability leaders from non-profits, city government, and higher education institutions to discuss ongoing efforts and collaboration opportunities.
- Peak Alliance for a Sustainable Future: Host a monthly speaker series on topics related to the Pikes Peak Regional Sustainability Plan.
- Green Drinks: Assist in planning a monthly networking event at various locations in the community.



CONCLUSION

Over the past few decades, there has been significant growth in the student population and campus building area, represented by increases in all resources. However, efficiency measures, renewable energy purchases, and improvements in waste and recycling processes have prevented a one-for-one rise in resource use with the growth.

Social, economic, and ecological values have been integrated into the policies, programs, and practices of UCCS. Strategic planning helps UCCS achieve this integration and the goal of institutionalizing and creating a culture of sustainability on campus.