

Campus Sustainability Committee (CSC) Progress Report January 2012 – December 2013

Introduction

The University of Wyoming (UW) continues to work toward its climate commitment goals. Progress has been made in many of the nine categories identified in the UW Climate Action Plan. This report summarizes progress made in the 2012 and 2013 calendar years.

Background

The University of Wyoming Laramie campus includes 161 buildings totaling over 6.2 million square feet on 785 acres. Across the state of Wyoming, the university owns 328 buildings on 15,580 acres. Total student enrollment for the Fall 2013 semester was 12,920 students on the Laramie campus.

Wyoming has a long history of energy development. Natural gas, oil, and coal are all produced in the state, and UW enjoys the financial benefits of these energy resources. Given this context, striking a healthy balance between extracting fossil fuels and curbing carbon emissions is challenging. Nonetheless, UW has made a commitment to reducing its institutional greenhouse gas emissions by reducing energy consumption, incorporating sustainability principles into the curriculum, and fostering a more sustainable culture among its faculty, staff, and students. As the only four-year institution in the state, UW is serving as a leader to find the balance between energy security, a healthy economy, and an environmentally sustainable future.

Each fiscal year since the signing of the ACUPCC, the University has conducted a greenhouse gas emissions inventory (GGEI). The results of these inventories can be found on the American College and University Presidents Climate Commitment website (at <http://www.presidentsclimatecommitment.org/>) and at www.uwyo.edu/sustainability. The GGEIs show that the University has remained relatively steady in the amount of greenhouse gases (GHG) it emits since the baseline year of 2005, even as building square footage has increased (over 500,000 SF since 2008). UW now has four Leadership in Energy and Environmental Design (LEED) certified facilities including three Gold and one Platinum. The University has also invested over \$10 million in energy facility efficiency upgrades in the last four years. These investments have allowed us to control utility costs and remain fairly stable in utility consumption even as the campus grows.

Creating sustainability awareness among the campus community and beyond, and encouraging behavior that leads to less resource consumption, is also critical to reducing carbon emissions. The graph below depicts UW's GHG emissions from 2001 through 2012.

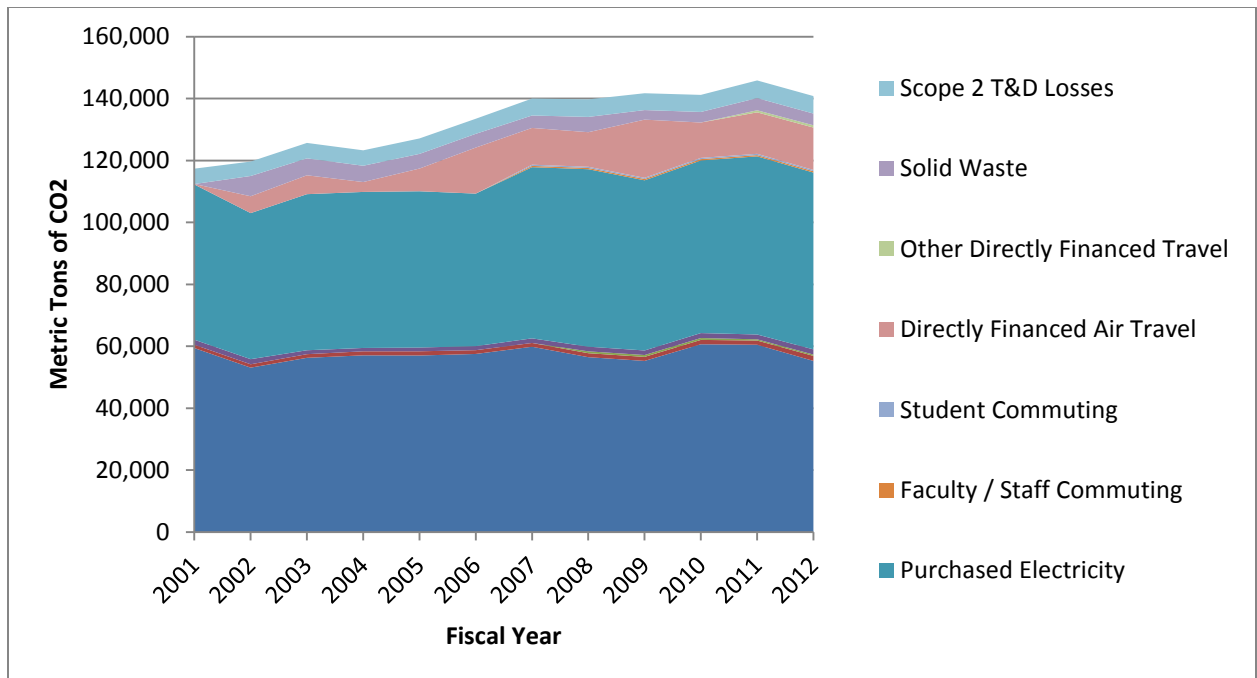


Figure 1 – Greenhouse Gas Emissions 2001 – 2012

The remainder of this report will present and discuss selected accomplishments toward GHG reductions at UW. The sections correspond to sections in the UW Climate Action Plan.

Accomplishments

The University of Wyoming has taken steps toward reducing institutional greenhouse gas emissions within the following key areas: energy, facilities, grounds, water, transportation, purchasing and procurement, recycling and waste management, policy, behavioral change, and curriculum and research.

Energy

A phased approach is being utilized to reduce energy consumption. Phase I (2009 – 2015) calls for ramping up energy efficiency across campus. Phase II (2015 – 2030) will include the implementation and use of alternative energy. Phase III (2030 – 2050) will continue building on the first two phases and may include purchase of carbon offsets where increased efficiency and alternative energy are insufficient. The following list highlights progress made in 2012 and 2013 toward energy efficiency.

- Student interns completed annual Greenhouse Gas Emissions Inventories (GGEI) for 2011 and 2012. The GGEI for 2013 is in progress and should be submitted in May 2014.
- The Sustainable Resources Team, which is a sub-committee of the CSC focusing on energy efficiency in utilities and facilities, completed a position paper on renewable energy use and production for UW. The paper is being used to help shape university policy on energy efficiency upgrades and renewable energy projects. A top ten list is included to complement the Utilities Master Plan.

- An additional \$500,000 has been allocated to lighting system upgrades to build on those already completed.
- The annual steam trap upgrade project continues and is now in its fourth year.
- Phase I and Phase II of a campus controls system upgrade are complete. Controls system standards have been developed and incorporated into new construction projects.
- A \$5.3 million Energy Performance Contract project using an ESCo including 10 buildings is complete. Project payback is guaranteed to be 11.7 years or less.
- All major buildings on campus have been separately metered for condensate, water, and electric meters for core campus buildings. Readings from those meters are available to the network controls system for tracking and monitoring energy use.
- A new vending contract was signed in 2013. The contract requires all vending machines to be energy efficient.
- Installation of a residential-scale wind turbine at the Wyoming State Vet Lab to serve as a visual commitment to renewable energy and as a demonstration project.

Facilities

All new buildings on campus are now constructed to LEED green building standards. More efficient buildings directly affect UW's greenhouse gas emissions and result in a more comfortable and healthy indoor environment for students, faculty, and staff. The following highlights UW's commitment to building toward LEED principles.

- All new buildings are being constructed to at least LEED Silver standards.
- Four campus buildings have received LEED certification: the College of Business, the Bim Kendall House, and the Berry Center have been certified LEED Gold. The Visual Arts Center is certified LEED Platinum.
- All new construction is commissioned by an outside Commissioning Agent to ensure design standards and performance has been achieved.
- Completed a \$5.3 million Energy Performance Contract to upgrade building systems in ten campus buildings.

Grounds

University Grounds Services continues to operate and develop in ways that reduce impact on the campus and community ecosystem. Tree-planting was at the heart of this goal in phase one with about 200 trees planted in a three-year period. In the next phase, the focus will be on efficiency improvements to the campus irrigation system.

- More efficient maintenance equipment has been acquired as replacement purchases are made.
- Environmentally friendlier fertilizer and pesticides are being used to maintain campus grounds.
- An irrigation system upgrade has been funded for 2014, and plans are being developed to reduce use of potable water for irrigation, replace aging distribution

pipng and install an automated centrally controlled controls system with moisture sensing capabilities.

Water

Water conservation involves educating the campus community, reducing water use, and upgrading plumbing fixtures. The first step in water conservation at UW is to better understand use so that education programs can be developed and upgrades can be made in key areas. A metering program is now in place and will guide conservation measures in the coming years.

- Low-flow restroom fixtures are being installed in all renovations and repairs, and low-flow fixtures are required for all new construction.
- Signage has been developed and will be installed with restroom renovations to increase awareness of water use on campus
- Combination water bottle fill stations and water fountain units are being installed across campus. Twelve units have been installed in Residence Halls and other locations across campus. At least ten more units are planned for installation in 2014.

Transportation

Transportation practices and services impact UW's institutional carbon emissions significantly. Facilities Planning, TransPark, and Transit Services aim to reduce UW's emissions through expanded shuttle services, bike and pedestrian routes, and by adding hybrid and other alternative fuel vehicles to the fleet.

- The current bus fleet has been expanded to 37 buses used for mass transit. Buses are used for campus shuttles, community routes, para-transit services and on demand safety-related calls.
- The campus shuttle system has been expanded to include express shuttles from a remote south lot and long-term east lot. Use of these park and ride areas has increased steadily and has received high praise from riders.
- UW, in partnership with the City of Laramie and Albany County, has launched a city-wide shuttle system (Gem City Grand) with 12 stops along Grand Avenue from downtown to East Laramie. The shuttle is free and open to the public and runs six days per week.
- As part of the Long Range Development Plan (LRDP), defined transportation routes for shuttles, vehicles, bicycles and pedestrians have been developed.
- Three electric vehicles operate on campus, and nine hybrid vehicles are available through UW Fleet Services.
- A number of fleet vehicles can run on flex fuel including a 20% biofuel mix.
- Six clean-diesel buses have replaced the shuttle fleet for campus and satellite lot use.
- The UW Bike Committee continues to identify areas for additional bike parking, and to publish the campus Bike Map showing parking, pathways, and dismount zones.

- New bus shelters with solar lighting have been installed in the East Shuttle Lot.

Purchasing and Procurement

From paper and cleaning products, to food and food service containers, UW is working to purchase products with post-consumer recycled content and products that are compostable.

- 100% recycled content paper products are used in all campus restrooms.
- Through the Procurement Office, most departments contract for 30% recycled content paper. Purchase of virgin copy and printer paper is discouraged.
- Dining Services uses green cleaning products for every application where there is a certified green product on the market including: Geo Fusion 9000 Machine Detergent, Geo Fusion Silver Fusion Presoak, Geo Mag Fusion (Pot and Pan detergent), Geo Crystal Fusion Rinse Additive.
- Wherever possible, dining locations use compostable boxes, flatware, cups, plates, bowls, to-go boxes, sushi containers, salad and sandwich containers, and other packaging.
- Dining Services sourced a supplier and product to be able to serve only cage-free liquid egg mix.
- Dining Services has worked to increase procurement of locally-grown foods when possible. Sources within 200 miles have been found for beef patties, eggs, lamb, and lettuce when in season. A source for apples has also been found in Western Colorado when in season. Milk is purchased through a local dairy in Denver, CO.
- Dining Services continues to work with ACRES, a student-run farm in Laramie, by purchasing locally grown produce when available.
- Dining Services serves organically-grown, fair-trade coffee in Washakie Dining Center, University Catering, Book and Bean, Elements, and Ross Hall.
- Waste oil from Dining Services is sold to a third party who converts it into bio-fuel.

Recycling and Waste Management

Recycling efforts at UW have advanced significantly over the last year. The improvements can be generally categorized as campus-wide collection efforts and residence-hall-specific efforts. The following list details the landfill diversion achievements UW has enjoyed in the last couple of years.

Recycling totals

- UW has participated in Recyclemania since 2009. The annual event on campus is coordinated by UW Recycling, the Campus Sustainability Committee, and the Wyoming Union. A friendly competition is included with other selected Mountain West institutions. UW always places well in the Per Capita Classic category and in the Waste Minimization category. For 2013 UW placed 157 out of 406 in the per capita category, and placed 50 out of 179 in the waste minimization category.
- The annual UW Move In and Move Out program continues in the residence halls. Cardboard is collected and recycled, and reusable items are collected and donated

to local charities or resold. Reusable items include food, clothing, furniture, and electronics

Recycling opportunities and waste minimization

- The campus recycling operation has been expanded to include more frequent collections and special event services. This has resulted in increased collections and awareness for the campus recycling program.

Composting and consumption reduction

- The student-run ACRES farm continues to accept and process compostable materials from the Washakie Dining Center, University Catering, and the Wyoming Union Food Court.
- Residence Life and Dining Services has partnered with Recyc-Oil to convert fryer oil from Washakie Dining Center to biodiesel.

Local foods

- Dining Services purchases meat from the UW Meat Science Department and from a new Wyoming processing plant in Cody, WY, to serve at the Washakie Dining Hall.
- Dining Services also purchases community-supported agriculture (CSA) shares from ACRES student-run farm to incorporate local produce in its offerings.

Policy

Policy related to more sustainable operations has helped institutionalize sustainability at UW. Both Facilities Planning and the Residence Hall Association have adopted new polices since 2010 to advance sustainability in their operations.

- All new construction is required to meet or exceed LEED Silver construction standards.
- The Residence Halls Association (RHA) modified its constitution to convert designated capital improvement funds within their budget to dollars committed to sustainability issues within the residence halls.
- Physical Plant has executed annual paper product purchasing agreements to purchase products with 100% recycled content. These products are used in all restrooms and labs.
- Physical Plant has mandated a 25% increase in green certified cleaning products in its Custodial Services unit.
- Procurement Services encourages and has negotiated purchasing agreements for supplies with recycled content.

Behavioral Change

Increasing awareness and encouraging changes in behavior among the students, faculty and staff, can result in a significant decrease in GHG emissions. The following list highlights some of the lifestyle and educational programming sponsored by the CSC and others during 2010 and 2011.

Behavioral Change - lifestyle

- Student interns are hired each year to work on CSC efforts – projects include the annual GGEI, sustainability surveys, energy efficiency project planning and tracking, and other special projects and events.
- The Associated Students of UW (ASUW) student government includes an executive position with Sustainability responsibilities.

Behavioral Change - education and outreach

- The Sustainable Engagement Team (SET) is a sub-committee of the CSC focusing on education and outreach to the campus community. The SET works with student clubs and community groups to promote sustainability throughout the community.
- A website has been created, and is continually maintained for the CSC, at <http://www.uwyo.edu.sustainability/> to make the sustainability vision, goals, reports and information readily available.
- A Campus Sustainability group has been created on WyoWeb, the UW intranet portal, to share files, collaborate on action steps, and provide work areas for sub-committees and teams.
- A media relations program was implemented in cooperation with UW Media to publish sustainability-related articles twice per month (2010 through present).
- Development of a CSC logo was unveiled at Earth Day 2010 events. The logo was chosen through a logo contest held in the spring of 2010. The winner was a UW student, chosen from 58 entries and awarded a \$300 prize.
- The first Wyoming Sustainability Summit was held April 12-13, 2010, at the UW Conference Center in Laramie. Over 100 people attended the two-day event. The Summit was co-sponsored by the Campus Sustainability Committee, the Haub School of Environment and Natural Resources, and Residence Life and Dining Services with support from the Argosy Family Foundation.
- UW's collegiate chapter of the American Marketing Association and Alpha Kappa Psi student business organization co-sponsored the 3rd annual Sustainable Business Practices forum in October 2010. The 4th annual event was held in September 2011.

- The CSC participated in the UW Homecoming Parade in October 2012 and 2013. Both years, the CSC entry featured the Physical Plant's electric truck and the Recycling Cyclers pedal pickups.
- The Sustainable Engagement Team of the Campus Sustainability Committee organized and hosted the 2012 Sustainability Discussion Series including panels on energy (CHP), local waste, and local food. These events involved students, faculty, staff, local community leaders, and the general community.

- The CSC implemented a pilot ‘branding campaign’ by installing signage in the Student Union to promote sustainable behaviors in the Spring of 2012. Several other student-centric buildings have been identified to expand the campaign.
- The CSC and UW Recycling participated in and promoted Recyclemania in 2012 and 2013, encouraging sustainable behavior and awareness.
- The CSC and campus partners organized and promoted activities during Earth Week / Earth Day 2012. Activities included coordinated efforts in advertising and events with SLCE and ASUW student groups to encourage student involvement and leadership, CSC hosting an essay contest “Laramie in 2050” for UW students to promote thought on realistic progress we might expect toward our sustainability goals in the campus and community by the year 2050, a Campus Cleanup Day, information table in the Student Union breezeway, bike registration tent on Prexy’s Pasture, and promotion by using the Recycle Cycles across campus.
- Promotion of Earth Week / Earth Day 2013. Activities included coordinated efforts with ASUW, CSC hosting of the ‘Thin Ice’ movie premier, annual Campus Cleanup Day, CSC and RHA co-hosted the Sustainability Resource Fair in Union Breezeway, included displays and representatives from campus, community, and regional groups, and CSC co-sponsoring of the ASUW keynote speaker for Earth Week.
- In 2013, the CSC conducted the first annual ‘Refrigerator Roundup’ to promote energy awareness on campus. A contest was held for departments to nominate their old and inefficient refrigerators for replacement. The grand prize was a new refrigerator, and all nominees were offered a free disposal of their old refrigerators. An expanded Roundup contest is planned for 2014.
- Social Media: CSC created a Facebook page in an effort to increase outreach and participation with UW students.
- The CSC co-hosted and co-sponsored the “Laramie Glass Recycling Forum” April 19, 2013, to encourage community and campus awareness and discussion of issues related to the discontinued glass recycling in the local community. Panelists included stakeholders from waste, glass industry, university, community, and city.
- The second UW Sustainability Summit – Building at 7200’ -- was organized and sponsored by the CSC and Ruckelshaus Institute on November 8, 2013. It included two panel presentations/discussions and a progressive dinner through the four campus LEED certified buildings. Over 60 people attended the event.
- The UW Nordic Ski Club sponsored a Trash 2 Treasures (T2T) event to keep furniture and appliances out of the Laramie Landfill. By collecting unwanted household items, cleaning them and then storing them for the summer, hundreds of pounds of potential waste was reused instead of added to the Landfill. Unwanted items were donated, stored and offered at a low cost to incoming and returning students.

Curriculum and Research

As the only four-year institution in the state, UW has a responsibility to take the lead in conducting research and offering educational opportunities in the areas of climate science, climate policy and sustainability. The intention is to integrate academic efforts and sustainable practices through the expansion of existing curricula and the development of new academic programs. The following describes the academic accomplishments of UW related to sustainability for 2012 and 2013.

- The interdisciplinary Campus Sustainability (ENR 4600/MKT 4600) course is now in its seventh year. The class was expanded to two sections in 2012 and re-combined into a cross-listed class for spring 2014. Student projects from this class have been implemented across campus and continue to operate as part of the campus sustainability program.
- A Sustainability minor with three tracks (general, food and sustainable energy) has been approved and was implemented in the Fall 2013 semester. As of 2014, eight students had declared the minor in sustainability.
- A Sustainability Freshman Interest Group (a living-learning community) was created in 2013 to explore sustainability principles and practices. As part of the two-part course series, a new course – Foundations of Sustainability – was created, which is available to students from any major.

Next Steps

The University of Wyoming will continue to build on the progress toward more sustainable operations reported above. As outlined in Phase I (2009-2015) of the Climate Action Plan, improving energy efficiency across campus will be critical to reducing our carbon emissions, and will be a focus in the near term. Meanwhile, exploring opportunities for renewable energy development continues.

As UW renovates existing buildings and constructs new facilities, it will continue to focus on building performance and efficiency. Specific percentage targets for energy performance, renewable energy production, water efficiency, and material resources used or consumed by facilities will be set. In order to better conserve water, existing plumbing fixtures will be replaced with new low-flow and occupancy sensor controlled fixtures. Special attention will also be paid to the development and beautification of natural areas on campus. UW Grounds Services is currently identifying areas on campus to be used as test plots for natural and drought-tolerant planting, and water-intensive areas that can be improved to use less water. In addition, a legislative request has been submitted to upgrade the campus irrigation system with new distribution lines and an automated control system with moisture-sensing capabilities.

One exciting project will be coming to fruition in 2014. UW will be joining the Billion Dollar Green Challenge and funding a Conservation and Energy Revolving Fund (CERF). This project has been in planning for about one year, and it appears all parts are in place to move forward with implementation in 2014.

Another specific project in planning is to expand the current surplus property depot to accept and sell a wider variety of used items and to operate with regular hours utilizing student help.

Efforts to purchase more sustainable products and divert more waste from the landfill are ongoing. The recycling situation in the Laramie community has changed dramatically in the last year, with the main service provider ceasing to collect materials. This has proved an opportunity to explore a campus-community partnership and to evaluate other options for processing recyclable materials. A new and improved program should be in place by May 1, 2014.

Efforts to expand sustainability curricula offerings on campus and community awareness have proven fruitful. With the new sustainability minor, more students can gain skills for ethical living and learn how to understand, analyze, and implement sustainable solutions.

Conclusion

Over the past two years, the University of Wyoming has been successful in advancing campus sustainability in several major areas. Even in light of tremendous growth in square footage, campus stationary and purchased electricity have remained fairly steady. This is a testament to energy efficiency efforts in existing buildings and construction of more efficient buildings through capital construction projects.

Plans for further improvements are ongoing and demonstrate that the University of Wyoming will continue to progress toward a more sustainable future. In addition to the University of Wyoming's progress in reducing GHG emissions, the education and outreach efforts show a commitment to encouraging behavior change within the campus community. Engaging students through hands-on experience, such as the greenhouse gas emissions inventory internships and classes included in the Sustainability minor, provide valuable learning opportunities.

Although UW has much ground to cover before it reaches its goal of carbon neutrality by 2050, the accomplishments highlighted in this report provide a solid foundation upon which to build future programs, initiatives and policies.