

# State of Sustainability

The University of Montana, Missoula

2010-2011



The University of Montana-Missoula State of Sustainability Report is a synopsis of initiatives in operations, education, research, and community outreach. It reflects on the accomplishments of dedicated groups, organizations, and individuals who demonstrate what is possible when people share a common vision and pull together to get things done. This report also details recommendations and plans for future actions:

- Create a carpooling/rideshare working group
- Research a Green Purchasing Policy
- Support recycling and Eco Reps in the dorms
- Explore voluntary carbon offsetting through Griz Tix
- Initiate LEED Existing Buildings, Operation, and Maintenance
- Start a Green Events Certification process
- Expand Green Thread
- Initiate Energy Monitoring and Social Marketing for Conservation

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## Introduction

Since becoming a charter signatory of the American College and University Presidents Climate Commitment (ACUPCC), the University of Montana - Missoula has met every required milestone. The next item due, on January 15, 2012, is a report detailing progress implementing our Climate Action Plan. Steps completed or undertaken to attain greenhouse gas emissions reduction targets and to incorporate sustainability in the curriculum will be included in the report.

The Sustainable Campus Committee (SCC) and the Office of Sustainability are charged with preparing an annual report on the state of sustainability at UM. The information incorporated overlaps with the ACUPCC progress report; therefore all reports will be combined herein as much as possible.

UM's State of Sustainability Report includes an overview of the people involved, the activities engaged in, and the accomplishments for AY 2010-2011. It also outlines suggested next steps and work to be continued. Within this report, website links, when available, are given if more detailed information is desired.

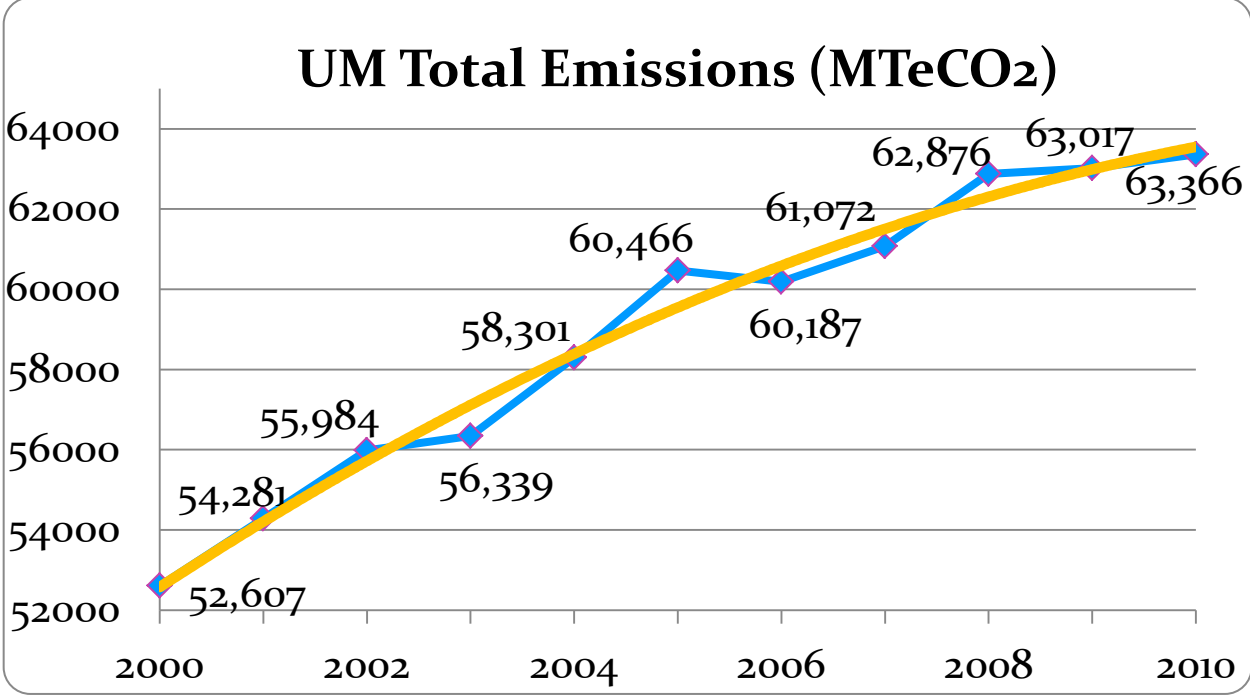
## American College and University Presidents Climate Commitment (ACUPCC)



### Greenhouse Gas Emissions

The ACUPCC requires greenhouse gas (GHG) inventories to be updated every other year. UM's first GHG inventory was completed in 2008 and an update prepared in 2010. The most recent inventory added data from years 2008-2010 and data not previously available. Specifically, air travel attributable to athletics was included in the 2010 GHG Inventory. Also, information on the actual fuel mix used by our electricity provider was used instead of EPA default values. These adjustments were applied to all years, 2000-2010, resulting in a GHG Inventory that is more representative of actual conditions. The graph below is a synopsis of the 2010 GHG Inventory.

**2010 Greenhouse Gas Inventory, The University of Montana – Missoula**



As the area of greenhouse gas accounting evolves, methods change resulting in differing data sets from previous inventories. Therefore, the 2008 GHG Inventory does not correlate directly with UM’s current inventory. However all data collected was used and updated create the 2010 inventory. The yellow line on the graph above indicates a reduction in rate of increase of UM’s GHG emissions, though overall emissions are still increasing. UM’s Climate Action Plan sets forth goals of achieving carbon neutrality by 2020 and a reduction in GHG emissions of 10% below 2008 levels by 2015. Much work remains to be done to achieve these goals. Plans are progressing for energy conservation and efficiency measures in existing buildings, social marketing for change, additional staff to monitor and report on energy use, reducing energy consumed by vending machines, promoting carpooling, and researching renewable energy options for campus.

**Progress Report**

ACUPCC requirements call for a Climate Action Plan implementation progress report one year after its completion. Following is an outline of required information for the progress report.

**Progress on Emissions Targets**

1. Climate neutrality target date  
**2020**
2. Interim emissions-reduction targets  
**10% below 2008 emission levels by 2015**
3. Change in GHG emissions from first submitted GHG Inventory to most recent GHG Inventory
  - a. Gross increase or decrease:  
**Increase of 2,294 metric tons of CO<sub>2</sub>e between 2007 and 2010**  
**3.8% increase**

- b. By full time enrollment:  
**Decrease of 0.4 metric tons of CO<sub>2</sub>e**  
**8.2% decrease**
  - c. Per 1,000 square feet:  
**Increase of 0.1 metric tons of CO<sub>2</sub>e**  
**0.6% increase**
  - d. Commuting emissions:  
**Increase of 429 metric tons of CO<sub>2</sub>e**  
**8.4% increase**
4. Emission mitigation projects completed or planned
- a. Energy efficiency retrofit projects planned  
**Ten or more projects including mechanical system upgrades, lighting upgrades, improved insulation, daylight harvesting, and retro-commissioning**
  - b. Expected annual emissions reductions from EE retrofit projects (MTCOE avoided emissions)  
**3,000 MTeCO<sub>2</sub> annually (estimated from data generated through Energy Audits)**
  - c. Energy efficiency retrofit projects completed since signing the ACUPCC (range)  
**Eight to ten projects including steam trap, HVAC, and lighting upgrades**
  - d. How many Green Buildings have been completed on your campus since signing the ACUPCC
    - i. New construction  
**One LEED Platinum building (certification pending)**
    - ii. Renovations  
**None**
    - iii. Please select the green building certification/rating that you use:  
**USGBC LEED Silver**
    - iv. How many are planned in the next 2 years  
**New construction – one (Gilkey Building)**  
**Renovations - none**
  - e. Other GHG mitigation efforts  
**Use Your Power Wisely social marketing campaign, increased busing options, fuel-efficient and hybrid cars added to fleet, and car-pooling.**
  - f. Renewable Energy  
**Solar – Two solar projects, 2.5 KW and 2.8 KW (Todd Building and UM FLAT)**  
**Biomass – 10 MW**
5. Cost savings from CAP mitigation efforts
- a. Has your CAP/Sustainability efforts saved your institution money?  
**Yes, but savings currently go to repay project costs.**
  - b. Estimate money spent on the CAP and related sustainability efforts  
**Greater than \$5 million (includes energy conservation projects, planning for the biomass plant, and planning, design, and additional construction cost for LEED certification)**
  - c. Estimated money saved to date from implementing the CAP?  
**\$186,000 annually**

- d. Expected money to be saved from implementing the CAP  
***\$1.4 million per year once the biomass plant is operational. This money will go to service project debt for 20 years.***
- e. Overall operations budget  
***\$286 million annually for entire campus***
- f. Money secured from outside sources to support CAP mitigation efforts  
***USDA Fuels for School and Woody Biomass Utilization programs \$430,000***
- g. Financing methods utilized for mitigation or renewable energy projects  
***Energy conservation bonds***  
***General funds***  
***American Reinvestment and Recovery Act funds***  
***USDA grants***

### **Progress on Toward Education Goals**

- 6. How is your institution making climate neutrality and sustainability a part of the curriculum and other educational experiences for all students?  
***UM offers a climate change studies minor to all students, regardless of discipline, and provides professional development to all faculty through the Green Thread program. Green Thread teaches faculty how to infuse sustainability into already developed curriculum, again regardless of discipline.***
- 7. Sustainability Outreach and Publication: Does your institution have a central sustainability website that consolidated information about the institution's sustainability efforts?  
***Yes, Greening UM website***
- 8. Sustainability in New Student Orientation: Does your institution include sustainability prominently in new student orientation?  
***Yes, Office of Sustainability, ASUM Sustainability Center table at orientation***
- 9. Undergraduate Degree Programs: Does your institution offer an undergraduate program in climate change/sustainability?  
***Yes, Environmental Studies, Environmental Journalism, Environmental Law, Geography Community and Environmental Planning, Environmental Studies, and the Climate Change Studies minor offered to all students***
- 10. Associate College Degree Programs: Does your institution offer a degree program in: Solar, wind, energy efficiency, green building, general sustainability, other?  
***Yes, Associates Degree in Energy Technology incorporates solar, wind, energy efficiency, and general sustainability***
- 11. Is your institution a member of the Sustainability Education and Economic Development Center?  
***No***

12. Graduate Degree Program: Does your institution offer a graduate program in climate change/sustainability?

***Yes, Environmental Studies, Environmental Journalism, Environmental Law, Geography Community and Environmental Planning, College of Forestry and Conservation.***

### **Progress toward Research Goals**

13. Climate and Sustainability Research Incentives: Does your institution have a program to encourage student climate and/or sustainability research?

***Yes, Environmental Studies, Environmental Journalism, Environmental Law, Geography Community and Environmental Planning, and through the College of Forestry and Conservation, most notably: Dr. Steve Running (Dir. Numerical Terradynamic Simulation Group - <http://www.ntsug.umt.edu/>), Dr. Dane Scott (ethics of climate change), Dr. Diana Six (entomology and pathology – climate change, insects and disease and forest health) and Dr. Llyod Queen (Dir. National Center for Landscape Fire Analysis - <http://firecenter.umt.edu/index.php/ID/4256abo4/name/LLoyd-Queen/fuseaction/aboutUs.detail.htm>)***

14. Does your institution have a program to encourage faculty climate and/or sustainability research?

***Yes***

### **Progress toward Expanding Community Outreach Efforts**

15. Community Climate Change and Sustainability Partnerships: Does your institution participate in community climate change and/or sustainability partnerships?

***Yes, faculty, staff, and students lead in local community Greenhouse Gas accounting and Climate Action Planning; UM Forum for Living with Appropriate Technology (FLAT) is a student-led sustainable living center demonstrating energy-efficient construction, renewable energy, and locally-grown food; Farm-to-College is a unique program sourcing food from local farmers; and UM partners with the local community to scale up the local busing system and encourage alternative transportation***

16. Community Climate Change and Sustainability Policy Advocacy: Has your institution advocated for federal, state, and/or local public policies that support campus sustainability or that otherwise advance your goal of climate neutrality?

***Yes, UM supports students attending PowerShift in Washington DC as well as local and regional events; UM students organized a state-wide conference including students from other campuses to meet with and hear from state politicians.***

# Sustainable Campus Committee (SCC)

## Charge

The charge of the Sustainable Campus Committee (SCC) is to identify and recommend to the University President specific actions and strategic plans the University community can pursue to move the University towards greater environmental sustainability in its operations, research, teaching and service/outreach functions; to collaborate with on-campus and off-campus groups to implement these actions and plans and sustain them over time; and to report to the campus community on the state of the university's sustainability efforts and on future plans each Earth Day.

## Membership

The Sustainable Campus Committee members for AY 2010-2011:

STUDENTS:	Aleta Jokish, Patrick Rhea
STAFF:	Mike Panisko (Co-Chair), Sue Malek, Brian Kerns
FACULTY:	Jeff Renz, Robin Saha, Steve Siebert
ADMINISTRATION:	Alan Fugleberg, Liz Roosa Millar, Chris Comer
OFFICE OF SUSTAINABILITY:	Cherie Peacock (Co-Chair)
ASUM SUSTAINABILITY CENTER:	Jennifer Hill-Hart, ASUM Sustainability Coordinator

Minutes and more information about this committee can be viewed on the Greening UM website:

<http://www.umt.edu/greeningum/Get%20Involved/Sustainable%20Campus%20Committee/SCC%20Meeting%20Minutes.aspx>

There are two subcommittees of the SCC, the Recycling Oversight Committee and the Kless Revolving Energy Loan Fund committee. Currently there is one working group, the Green Cleaning Working Group tasked with implementation of the Green Cleaning Policy. Reports from these three groups are located at the end of this section.

## Accomplishments

### **Micro-Grants**

The SCC utilized allocated funds from the President's Excellence Fund to finance the following micro-grants:

- \$175 for gift certificates to incentivize student participation in surveys administered by students in Professor Stephen Yoshimura's Communications Research Course. The students studied the effectiveness of the Use Your Power Wisely sustainable behavior campaign.
- \$92.20 for a "The Greenest Dorm" plaque given to the winning dorm that conserved the most energy during the Use Your Power Wisely energy conservation competition.

- \$1000 for student stipends to create UM sustainability videos for use on the Greening UM website, Green Griz athletic events, and other venues throughout the year. The videos can be viewed at: <http://www.umt.edu/greeningum/videos.aspx>
- \$1000 to the Montana Environmental Students Alliance (MESA) conference which brought together students from across the state to discuss campus sustainability initiatives and network with political leaders in Helena. More information about MESA can be found at: <http://www.mesamontana.org/about.php>
- \$1000 to UM Climate Action Now (CAN) to cover expenses associated with sending student so Washington, DC to attend Power Shift. More about UM CAN: <http://www.umcan.org/CAN/Home.html>
- \$600 to UM Forum for Living with Appropriate Technology (FLAT) for their annual fundraising BBQ. UM FLAT information: <http://www.umt.edu/umflat/>

The current SCC budget balance is as follows:

<u>Date</u>	<u>Account Recap</u>		<u>Balance</u>
6/30/2010	Beginning Balance		8,053.55
	GMD-Excellence Funds Transfer		8,053.55
9/1/2010	Printing & Graphics - 6 SCC Annual Reports	199.00	7,854.55
11/4/2010	Incentive Gift Certificates for Survey	175.00	7,679.55
3/4/2011	greenest dorm plaque	96.20	7,583.35
3/22/2011	Student Stipends – Green Videos	500.00	7,083.35
3/22/2011	Student Stipends – Green Videos	500.00	6,583.35
3/28/2011	Sodexo Inc. - MESA Summit	981.80	5,601.55
4/2011	UM CAN student group to send students to Powershift	1000.00	4,601.55
5/2011	UM FLAT for annual BBQ	600.00	4,001.55

### Greening UM Awards

AY 2010-2011 recipients of the Greening UM awards were:

- Zachary Brown, Environmental Studies student, for his leadership with 1000 New Gardens, Montanan Environmental Students Alliance, and UM FLAT.
- Tom Javins, Utilities Engineer and Associate Director of Facilities Services, for his commitment to helping students in their efforts to reduce energy consumption on campus.
- Len Broberg, Chair and Associate Professor of Environmental Studies, for his outstanding commitment to campus sustainability and tremendous impact as faculty advisor for the UM FLAT.
- Mark LoParco, Director Dining Services, for making Dining Services a model of sustainability and for his work institutionalizing the Farm-to-College Program.

## **Biomass Gasification Boiler Project**

The SCC kept informed regarding the proposed on-campus biomass gasification boiler project. This project is projected to reduce greenhouse gas emissions by approximately 20% and could be a big step toward meeting UM's Climate Action Plan goals. The SCC wrote the following letter to expressing both support for and concerns about the biomass project.

**MEMORANDUM**

**April 26, 2011**

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TO: Vice President Bob Durringer

RE: UM's Proposed Biomass Plant

Based upon a consideration of the plans, process, and projected economic and environmental benefits, the Sustainability Campus Committee (SCC) supports UM's efforts to develop a Biomass Plant: to seek public input, to implement best available control technologies, to exceed air quality standards, and to obtain federal and state permits. The SCC's support reflects the following considerations:

- 1) Conversion to wood biomass will reduce current UM fossil fuel/natural gas consumption by approximately 70% and campus greenhouse gas emissions by 16-22%. This represents a significant step towards meeting the UM 2010 Climate Action Plan;
- 2) Sufficient wood resources are available from nearby public (e.g., Lubrecht, US Forest Service, US Bureau of Land Management, and State Lands) and private forest lands to supply the approximately 15,000 tons/yr required in perpetuity without adversely affecting forest or soil conditions;
- 3) The biomass utilized (i.e., slash and small diameter residues) will not compete with local timber industries (i.e., logs) and provides a much needed market for forest restoration projects in the wildland-urban interface (WUI);
- 4) The facility will create about 150 design & construction jobs and 6 long term supply and operation jobs;
- 5) Conversion from natural gas to biomass is projected to save money and provide a hedge against fossil fuel price increase in the future;
- 6) The Biomass plant is designed to meet or exceed all local, state and federal air quality standards;
- 7) UM facility services has pursued an open, inclusive and informative process of public input that meets permitting requirements;
- 8) Local sourcing of renewable and sustainable energy fosters a stronger community by enhancing economic opportunities, spurring forest restoration, mitigating greenhouse gas emissions and improving air quality;
- 9) The feedstock supply process is modeled upon the mutually-beneficial collaborations pioneered by the successful Farm-to-College program.

The biomass plant and its operation can provide valuable educational and research opportunities for UM students and faculty. We strongly encourage the University to consider stringent emission controls and a continuous emissions monitoring system to facilitate research and to ensure protection of public health. We hope that the University will open the plant and its supply chain to academic study by faculty and students.

The SCC recognizes that projects of this magnitude may encounter unanticipated problems, therefore the SCC will continue to monitor and review project implementation and operation.

We look forward to future collaboration with the University administration on this effort and its steps to implement UM's Climate Action Plan and make UM a model for sustainability.

Sincerely,

The Sustainable Campus Committee

### **Committee Presentations**

The SCC hosted speakers at their meeting on the following topics:

- Carbon Offsets and Planned Parenthood
- Greening IT by Tom Gallagher, Associate Professor, COT

### **SCC Recommendations and Plans for Future Action**

#### **Transportation Carbon Footprint**

UM's transportation footprint is 18,000 MTeCO<sub>2</sub> (metric tonnes of CO<sub>2</sub> equivalent). The strategies implemented to date to reduce this footprint include:

- ASUM Transportation bus system, rental bikes, and incentives for using sustainable forms of transportation aimed to reduce commuting.
- UM's fleet is being replaced with the most fuel-efficient models that will provide the service needed.
- Reduced-rate parking permits to incentivize car-pooling.

Still, there is a considerable quantity of emissions not currently addressed. Air travel is the largest category of transportation emissions without a reduction strategy beyond offsets.

Students, through Professor Saha's Environmental Citizenship course, developed the following proposals to reduce emissions from commuting. The SCC endorsed implementation.

## Commuting Emissions

According to the UM Climate Action Plan, commuting to campus is estimated to account for 14% of the University's total greenhouse gas emissions and nearly half of the University's transportation-related emissions. Effective strategies to reduce emissions associated with commuting are necessary to achieve UM's Climate Action Plan goal of carbon neutrality by 2020.

One way to significantly reduce the number of commuting trips and associated emissions, the four-day-week, was carefully considered but proved to be unworkable at this time. In addition, ASUM Transportation and The UM Office of Public Safety have tried various approaches to encourage carpooling, such as a carpool lot, an inexpensive carpool parking pass, a campus rideshare board, and an on-line ridesharing matching forum.<sup>1</sup> However, these have not succeeded at increasing carpooling. Thus, renewed effort or other approaches that can supplement existing alternative transportation and commuting programs need to be developed and implemented if the commuting share of emissions is to be reduced. This will require careful planning and coordination.

In Fall 2010, a group environmental studies graduate students called CoolPool examined published literature on carpool commuting behavior, past and present carpooling programs at UM, and carpooling programs at other universities, including those in small- and medium-sized cities, such as Binghamton and Ithaca, New York. The CoolPool team also conducted a survey of nearly 200 students about their commuting behaviors, attitudes and obstacles toward carpooling, and preferred ways to increase commuting. Among those surveyed who commute to campus (N=124), the team found:

- Most make 5-10 trips to campus each week.
- 42% commute three or more miles to campus.
- 73% use a car to come to campus for at least one trip per week.
- 45% never carpool.
- The biggest obstacles to carpooling are scheduling challenges, preferring other forms of alternative transportation, and needing people to carpool with.
- Parking pass discounts and guaranteed parking spots are the preferred incentives to increase carpooling.
- 77% said saving money would encourage them to carpool.
- 91 % said they are unaware of the existing carpool pass.

CoolPool's review of published rideshare research and university carpool programs concluded that programs most likely to succeed, i.e., enjoy high participation levels, integrate the following features:

- Incentives, i.e., measures that make carpooling more appealing, for example, having carpool parking spaces, a tiered fee structure, or daily parking passes only (Harvard University and University of Texas, Austin);
- Disincentives, i.e., measures that make driving alone less appealing, for example, increasing regular parking permit fees (Cornell University and Binghamton University); and
- Facilitation services, i.e., programs that make carpooling easier, for example, having a carpool coordinator or online matching forum (University of Michigan and Flinders University).

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<sup>1</sup> The terms "carpooling" and "ridesharing" are used interchangeably.

The CoolPool team discussed various options with ASUM Transportation and The UM Office of Public Safety and concluded that developing a successful rideshare program suitable to The University of Montana campus must involve key stakeholders and the broader campus community, i.e., students, staff and faculty. In their report, CoolPool recommended that President Engstrom form a representative working group to chart out a course of action.

In May 2011, after receiving CoolPool's report and a presentation, the SCC formally endorsed this approach to developing a strategy to increase carpooling and thereby help reduce commuting-relating greenhouse gas emissions. The SCC recommends that representatives from each of the following entities be included in such a working group:

- UM Administration
- UM Office of Public Safety
- ASUM Transportation
- Sustainable Campus Committee
- Faculty and staff
- Undergraduate and graduate students who commute.

The SCC further recommends that a carpooling/rideshare working group be charged with the following:

1. Examine the current parking fee structure, including the carpool pass permit, and the way that permit fees, parking availability and program outreach influence commuter choices & behavior.
2. Assess the effectiveness of programs at other academic institutions and their applicability and likely efficacy at UM.
3. Develop budget-neutral alternatives to increase carpooling that integrate incentives, disincentives, and facilitation service (or similar or low-cost options that identify funding sources).
4. Present alternatives to the campus community and conduct campus listening sessions.
5. Make final recommendations to the President's Office.

The SCC believes that renewed attention to parking and commuting must be an important component to achieving the University's carbon reduction goals and looks forward assisting with such an effort.

### **Green Purchasing**

As UM moves to the new purchasing system, GrizMart, policy and procedures could be created to encourage purchasing products that are certified as "green". Policy development is needed as there are many ways to certify products as green, some with more rigor than others. It is hoped that bulk purchasing of products like recycled-content paper could make them more affordable.

The SCC has previously researched paper purchasing on campus and surveyed various departments, but these data are now outdated. However, in spring 2011, Environmental Studies students presented results of a survey they conducted of 10 academic departments' paper purchases and use. The students found considerable support for a purchasing policy for recycled paper content. The students also found that purchasing 30% recycled-content paper would increase paper costs only 7% on average, and they recommended bulk purchasing coupled with paper use reduction strategies. Bulk purchasing of products like recycled-content paper makes them more affordable and reduces the environmental impacts associated with their production, distribution, and disposal.

This year, the SCC plans to research including greenhouse gas emissions associated with purchasing in UM's carbon footprint. Those emissions currently are not in UM's GHG Inventory nor Climate Action Plan. The SCC will also explore the possibility of including green purchasing guidelines in the GrizMart system. And the SCC will investigate a paper purchasing policy based on the student research mentioned above.

### **Greening of Residence Life**

Students have identified the dorms as a key point of contact with new students. Greening initiatives that were piloted include the Eco-Rep program (more information at: <http://www.umt.edu/greeningum/InitiativesCampaigns/UM%20Eco-Rep%20Program.aspx>), energy conservation competition between dorms, and in-dorm recycling. Student members of the SCC have indicated a desire to continue these initiatives with the hope of institutionalizing them. SCC members Liz Roosa Millar and Cherie Peacock meet with Residence Life Director Sandra Schoonover to discuss how the committee could assist. No firm decisions were made and discussions will continue.

### **Voluntary Electricity Offsetting through Griz Tix**

SCC member Brian Kerns is exploring the option of offering voluntary offsets with each Griz Tix sold. One source of offsets could be Missoula city's Green Tags program where renewable energy credits can be purchased with some of the proceeds going toward city energy conservation measures.

## **Subcommittee Reports**

### **Recycling Oversight Committee**

The Recycling Oversight Committee members for AY 2010-2011:

FACULTY:	Vicki Watson, Environmental Studies, Co-Chair
RECYCLING COORDINATOR:	Edi Stan, Co-Chair
STUDENTS:	Ashleen Williams, President, ASUM Patrick Rhea Alison Kilts Stacy Boman Dave Martin Joel Tatz-Morey
ADDITIONAL REPRESENTATIVES	
Business Services:	Vickie Voss
Environmental Studies Program:	Vicki Watson
Printing Services:	Mary Ellen Krell, Campus Quick Copy
Residence Life:	VACANT
Student Affairs:	Bob Stevens
Facilities Services:	Gerald Michaud



The University of Montana

### *UM Recycling Program 2010-2011 accomplishments, challenges, priorities*

- Pick up regularity has improved at about 90% on-time scheduled collection; supplemental collection is channeled through the Facilities Services Work Order Desk – over 80 work orders executed
- Collection, sorting and delivery processes of recyclable materials remain about the same as previous year with minor improvements; Recycling Shop has been divided in Work Area and Student Ready Room
- Cardboard operations have been streamlined and 4 more trailers were purchased in order to expand collection at student dorms, family housing and rental apartments managed by Residence Life
- Participation in Recyclemania national competition successfully completed at the Benchmark Division, with plans for competing next year in the Competition Division
- E-waste recycling was contracted with ECS Regenesys, a California re-claimer and smelter company eliminating the intermediary company and saving about \$5,000 per each delivery
- Recycling was improved at every home Griz Football game and at most other athletic events
- Recycling Program presentations and proper recycling procedures have been showed at 8 out of 9 student dorms to increase student awareness and education
- A pilot program to collect at every floor in Knowles Hall is in its final stage as a result of presentations and ASUM Sustainability Coordinator efforts
- Up to 16 students were hired on a part-time basis with over 7,000 work hours logged; student wages have been raised from \$7.00/hour to \$7.35/hour
- The Recycling Oversight Committee approved a career ladder to be implemented for the Recycling Coordinator position
- Students initiated, supported and passed a fee increase to expand the recycling program. Additional staff will be hired and efficiency increased by adding cardboard trailers.

### **Kless Revolving Energy Loan Fund**

The Kless Revolving Energy Loan Fund was comprised of the following members for AY 2010-2011:

Robin Saha, RELF Chair, EVST Faculty  
Jennifer Hill-Hart, ASUM Sustainability Coordinator  
Trent Hanson, ASUM Business Manager  
Len Broberg, EVST Faculty  
Tom Javins, Facilities Services  
Patrick Rhea, ASUM Senate  
Allison Wren, ASUM Senate  
Emily Schembra, Student at Large  
Ada Montague, Student at Large



The Kless Revolving Energy Loan Fund was initiated in Fall 2009 to support student involvement in conservation and efficiency projects in auxiliary buildings on campus such as the Lommasson Center, University Center, and Residence Halls. The Fund is supported by a four dollar per semester optional student fee.

The KRELF Committee solicits student-initiated project proposals each semester. Students develop proposals in conjunction with building managers, with guidance from the ASUM Sustainability Coordinator and as part of designated service learning classes, such as the Climate Change Studies practicum. Eight projects totaling \$40,000 have been approved to date, including the following:

- 16 Energy STAR washing machines in Residence Halls
- Motion detector light switches and exhaust fan shut-off sensors in Residence Halls
- Solar array installation at the UM FLAT (Forum for Living with Appropriate Technology; <http://www.umt.edu/umflat/>)
- Solar array installation and energy generation monitoring system on the Todd Building
- Daylight harvesting and lighting improvements for the Fitness and Recreation Center gym space
- Reusable take-out containers for Dining Services

The Kless Revolving Energy Loan Fund was named after the Sonny Kless, an environmental studies student who spearheaded the RELF and died in a tragic accident in 2010. A formal renaming event honoring Sonny Kless and attended by his family was held in the Payne Family Native American Center in May 2011. The KRELF Committee which consists of students, faculty, and a Facility Services representative, has conducted outreach to faculty, building managers, and various campus entities such as the College of Technology, and expects fruitful collaborations and larger projects to be developed in the coming years.

### **Green Cleaning**

Although not a formal subcommittee of the SCC, the Green Cleaning Policy and subsequent Working Group were initiated by the SCC. This group brings together the following representatives from departments across campus:

Brian Fruit, Campus Recreation, Assistant Director Facilities  
Jackie Hedtke, Event Services, General Operations  
Jennifer Hill-Hart, ASUM Sustainability Coordinator  
Josh Hofman, Residence Life, Staff  
Cheri Hollist, Business Services  
Rick Kleinjan, Facilities Services, Maintenance Supervisor  
Larry Miller, Curry Health Center  
Jack Mondloch, Custodial Services Supervisor  
Cherie Peacock, UM Sustainability Coordinator  
Bob Stevens, Dining Services  
Roger Strobel, University Center, Assistant Director

The Green Cleaning Working Groups meets once a month and is charged with developing an approved cleaning products inventory, new products testing and approval procedures, user training, and information sharing among campus organizations with cleaning responsibilities. To date the products inventory is about 90% complete, the new products testing and approval procedures were developed and approved, and a web-based information sharing system initiated.

## Office of Sustainability

### Mission

The Office of Sustainability is charged with designing, developing, coordinating and executing UM's sustainability programs. These include campus-wide recycling, greenhouse gas accounting, climate action plan development and implementation, incorporating sustainability in the curriculum, and compliance with the ACUPCC. The Office of Sustainability works with student interns, assists in coordinating faculty development, collaborates with the community, and consults on various sustainability-related projects.

### Staff

SUSTAINABILITY COORDINATOR:	Cherie Peacock
STUDENT INTERNS:	Darcy Klessens, Climate Change Studies Andrew Endris, Climate Change Studies Allison Wren, Climate Change Studies
RECYCLING COORDINATOR:	Edi Stan
RECYCLING STAFF:	A staff of 15 students process recyclables

### Accomplishments

The Office of Sustainability collaborated on the following initiatives, programs, and projects in AY 2010-2011:

- Assisted with community involvement for the biomass gasification boiler project
- Completed the 2010 Greenhouse Gas Inventory
- Social Marketing for behavior change - Use Your Power Wisely campaign including slogan, logo, media development, and energy conservation competition in the dorms
- Supervised the Recycling Program
- Greening UM website management
- Supervised three interns from the Climate Change Studies minor program
- Collaborated with ASUM Sustainability Coordinator on Earth Day events and student engagement
- Served as Facilities Project Manager for the FLAT (Forum for Living with Appropriate Technology) project
- Assisted in organizing Green Thread faculty development workshop
- Organized Green Cleaning meetings
- Incorporating sustainability in Orientation, Welcomfeast, and Green Griz athletic events
- Responded to sustainability-related surveys such as the Princeton Review, Sustainable Endowments Institute Report Card, misc ACUPCC and AASHE requests for information.

### *Affiliate Campuses ACUPCC Accomplishments*

When President Dennison signed the ACUPCC, it encompassed The University of Montana as a whole. The affiliate campuses of The University of Montana Western Montana, Montana Tech, and Helena College of Technology have completed greenhouse gas inventories. Western has also completed a climate action plan. Although Montana Tech and Helena COT have missed reporting deadlines, they have recently made progress in fulfilling the commitment. The Office of Sustainability coordinates with the affiliate campuses and provides technical assistance when needed.

### *ACUPCC Implementation Liaison Support Subcommittee*

The Office of Sustainability is involved with the ACUPCC Implementation Liaison Support Subcommittee. This group with representatives from across the nation meets once per month via conference call. The members provide feedback and peer-to-peer support to colleges and universities for ACUPCC implementation. More information about this subcommittee can be viewed at:

<http://www.presidentsclimatecommitment.org/node/6490>

### *Community Involvement*

The Office of Sustainability is involved in the following local and regional activities:

- Missoula Mayor's Advisory Group on Climate Change and Sustainability
- Advisory Council for the Missoula's Green Blocks program
- Local Sustainability Coordinators networking group
  - This group informally collaborates and shares information
  - Members represent St Patrick's Hospital, Community Medical Center, US Forest Service, City of Missoula, Montana Department of Natural Resources, and UM
- Newly initiated Sustainability Partnership of the Northern Rockies, which is a network of sustainability coordinators and representatives from higher education, organized on a bioregional basis.
  - The group was recently formed at the University of Idaho President's Sustainability Symposium and serves to foster collaboration.
- Montana Environmental Students Alliance (MESA)
  - MESA is an overarching student group fostering collaboration across Montana.

### **Next Steps**

The Office of Sustainability is involved with the following new initiatives:

- Green Events certification
- LEED EBOM (Existing Building Operation and Maintenance) building certification to meet President Engstrom's Strategic Plan goal of 25% of buildings certified as sustainable by 2020.
- Expansion of the recycling program
- Potential national expansion of the Green Thread program
- Development of an Energy Use Monitoring and Social Marketing for Change action plan
- Continued community outreach with the city of Missoula, local organizations, higher education institutions in Montana, and regional networking.
- Consulting with student groups on renewable energy options for UM

## **ASUM Sustainability Center**

The ASUM Sustainability Center serves as a resource to help promote, develop, and implement sustainability efforts and activities at the University of Montana. Jennifer Hill-Hart, ASUM Sustainability Coordinator for 2010-2011 managed the Center and its campaigns. The ASUM Sustainability Center worked on a variety of campaigns seeking to educate students, and help UM reach its Climate Action Plan goals. Some of the larger campaigns included:

### **Kless Revolving Energy Loan Fund**

The Kless Revolving Energy Loan Fund (KRELf) allows STUDENTS to propose projects that save energy on campus using money generated through a \$4 per semester optional student Sustainability Fee. Projects funded by the KRELf fund must demonstrate quantifiable savings and a return on investment. Future energy costs saving must be used to repay KRELf, thereby allowing the fund to be self-sustaining over time. Funded projects will reduce annual operating expenses, decrease greenhouse gas emissions, and lower energy costs. Funded projects will reduce annual operating expenses, decrease greenhouse gas emissions, and lower energy costs in campus buildings. The following projects were approved in the 2010-2011 school year:

- Reusable To-Go Container Service
- Lights Out at Curry Health Center
- Check Out Kill-A-Watt Electricity Usage Monitors

### **Green Griz Football Game**

On October 23, 2010, UM entered the EPA Waste Wise Game Day Challenge and recycled and composted at the Griz football game during the game and tailgate! The “Go Griz, Go Green” game was a continuing effort by UM and the UM Athletics to bring the University’s commitment to sustainability initiatives and environmental stewardship to Griz fans.

### **Eco-Rep Program**

During the Fall 2011 semester, 3 dorms were represented by their own Eco-Rep. This individual organized sustainability activities including documentary showings, bicycle maintenance, public transportation information sessions. The Eco-Reps also coordinated a green dorm competition among their dorms, monitoring electricity, heat and water usage.

### **Green Dorm Recycling Program**

In the spring of 2011, Knowles Hall residents organized a dorm recycling program, entirely volunteer-based for the month of April and part of May.

### **Earth Week 2011**

This ASUM Sustainability Center held a Campus Sustainability Summit at UM - Missoula to talk about the University’s Climate Action Plan. Each panel provided information and education to both the public and campus about sustainability and efforts UM is taking to meet the University President’s commitment to carbon neutrality by 2020.

Earth Week activities:

- **Trash Bash Fashion Show:** Tuesday, April 19, 2011 at noon in the UC Atrium
- **Campus Sustainability Summit:** Wednesday & Thursday, April 20 & 22, 2011 from 8 to 4 pm
- **Panel Discussion and Reception:** *The State of the Environment: Post-2011 Montana Legislative Session*

- **Movie & Discussion:** *H2Oil* & Panel discussion, Thursday, April 21 at 6:30 in North Underground Lecture Hall
- **Celebrate Earth Day on the Oval Celebration**

### Green Griz Video

Three videos were made in partnership with the ASUM Sustainability Center, the UM Office of Sustainability, UM Media Arts, UM Athletics, UM Administration and the Bob Tutskey Group. These videos featured well-known UM faces, including President Engstrom as they each told why sustainability was important to them.

### E-rase your E-waste

In the fall of 2010, the ASUM Sustainability Center, partnering with Allied Waste and Vanns Electronics, coordinated over 50 volunteers to help prevent over 140,000 lbs of Missoula E-waste from going to the landfill.

## Highlights of Other UM Accomplishments

### President Dennison Receives Climate Leadership Award

President George M. Dennison was honored with a Second Nature Climate Leadership Award in the Individual President/Chancellor category. Dennison received the award at the Climate Leadership Summit of the American College and University Presidents Climate Commitment, held Oct. 12-13, 2010 in Denver. More information about the award can be viewed at:

<http://news.umt.edu/2010/10/101410denn.aspx>



### Recognition in “The Princeton Review’s Guide to 286 Green Colleges”



The University of Montana-Missoula was listed in “The Princeton Review’s Guide to 286 Green Colleges”.

<http://www.princetonreview.com/green-guide.aspx>

## Green Thread



The Green Thread faculty workshop was offered for the third time and is open to faculty from around Montana and 2011 saw a sharp increase in applications and interest.

<http://www.umt.edu/greeningum/AcademicPrograms/TheGreenThread/default.aspx>

## UM Forum for Living with Appropriate Technology (FLAT)

The UM FLAT student sustainable living center is installed a solar photovoltaic system donated by Northwestern Energy. Information about the UM FLAT is at: <http://www.umt.edu/umflat/default.aspx>



## Farm-to-College Program



Farm-to-College Program is dedicated to buying more food locally to feed the campus community. Since its creation, the program has been an incredible success, and today students get more than 15% of their campus food from vendors around the state.

[http://life.umt.edu/dining/farm\\_to\\_college/default.php](http://life.umt.edu/dining/farm_to_college/default.php)

## Biomass Gasification Plant

In conjunction with the University of Montana, McKinstry (a full-service design, build, operate and maintain firm) has completed preliminary plans for a biomass fueled combined heat and power plant, to be located on the University of Montana's Missoula, Montana campus.

<http://umt.edu/biomassplant/>



University of Montana  
missoula, MT

proposed biomass project

modern / attached concept



## **First LEED Building**

Although not yet officially certified, the Payne Family Native American Center is expected to achieve LEED Platinum status. The goal was Silver. <http://life.umt.edu/aiss/nativeamericancenter/default.php>



## **College of Technology Building Futures Program Student-Built House Achieves NAHB Bronze Certification**

The Building Futures Program, a community partnership consisting of UM's College of Technology, the Missoula Building Industry Association, and The Flagship Program, built and raffled their first student built house. The NAHB Bronze Level certified custom home, located at 2604 Roderick Way in Missoula, has three bedrooms and two and a half baths, with 1,484 square feet on the main floor and 742 square feet on the upper floor. These community partners are planning on breaking-ground for the second student built house in April 2011.

## **Students/Faculty complete Missoula city's GHG Inventory**

UM students and Professor Robin Saha completed a Greenhouse Gas Inventory for the City of Missoula as part of Environmental Studies graduate class called Local Solutions to Climate Change. As a result of the report Mayor Engen has created a Climate Action Planning Task Force to develop emission reduction strategy for the city. More at: <http://www.ci.missoula.mt.us/index.aspx?NID=1066>