University Sustainability Council

Meeting Summary - DRAFT

February 24, 2011

Attendees:
Ann Wylie, Vice President for Administrative Affairs (Chair)
Linda Clement, Vice President for Student Affairs
Mahlon Straszheim, Associate Provost, Academic Affairs
Mary Ann Ottinger, Professor and Associate Vice President for Research
Scott Lupin, Associate Director, Environmental Safety and Director, Office of Sustainability
Jay Elvove, Manager, OIT
Bruce James, Professor and Director, Environmental Science and Policy
Allen Davis, Professor, Civil and Environmental Engineering
Matthias Ruth, Professor, School of Public Policy
Matthew Popkin, Undergraduate Student, Government and Politics

Invited Guests:
Susan Corry, Energy Conservation Manager
Russell Furr, Director, Environmental Safety
Jim Stirling, Director, Procurement and Supply

Meeting start time: 11:00am

Meeting Highlights

Introductions
Introduced new staff members of the Office of Sustainability and Department of Environmental Safety including Russell Furr, Director of Environmental Safety; Fran Avendano, Sustainability Communications Coordinator; Aynsley Toews, Sustainability Enhancement Coordinator; and Sally DeLeon, Sustainability Measurement Coordinator.

Governor's Forum on Sustainability
Joan Kowal and Scott Lupin attended Governor O'Malley's forum on sustainability. The Governor called the meeting to collect ideas on what the State can do to further sustainability. Five of the Governor's fifteen goals for the State are directly related to sustainability. Jim Stirling mentioned he attended yesterday's Public Works meeting where the Governor discussed wind power projects under development throughout the State including the ones developed by the University System of Maryland. The Governor suggested a sustainability competition between Maryland universities.

UM Paper Purchases and Discussion about New Policy
Mark Stewart provided an analysis of environmental and financial savings realized by a reduction in copy paper consumption between 2007 and 2010. **See Appendix A**. Council members discussed a proposal presented by the Office of Sustainability to create a campus policy mandating the use of copy paper made from 100% post-consumer content (PCC).

- Scott Lupin and Jim Stirling mentioned that their departments had already switched to 100% PCC and have not had any issues with the paper. Reduced paper consumption has offset any additional cost.
- The Council agreed that the campus should meet the state mandate and that the campus Environmentally Preferable Purchasing Policy should be modified to reflect the change and include approaches to reduce overall paper consumption. Scott Lupin stated that the Office of Sustainability plans to develop a Green Office certification and a change in the policy could be aided by that program.

ACTION: Scott Lupin and Jim Stirling volunteered to put together a draft policy for the March meeting.

Tap vs. Bottle Water

Bruce James and Allen Davis presented on tap water versus bottled water. **See Appendix B**. The presentation led to a discussion of the possible departments that would be largely affected including Athletics, Stamp Student Union, and Dining Services. There was agreement that the issue is complex and that a workgroup should be formed to understand the reasons for switching, alternatives, and impact on our operations. The workgroup should also gauge the campus community's opinions about restricting or banning bottled water sales.

ACTION: The Council approved a workgroup to investigate the issue of bottled water. Bruce James (Chair), Matthias Ruth, Linda Clement, and Matthew Popkin will represent the Council on the workgroup. A representative of the Office of Sustainability, Athletics, Dining Services, the Stamp Student Union, and Business Services will serve theworkgroup. Additionally, Matthew Popkin will recommend other undergraduate student reps and a graduate student rep will be identified.

Student Advisory Subcommittee Report: Fund Proposal Recommendations

Matthew Popkin presented the Student Advisory Subcommittee's recommendations on which projects should receive grants from the University Sustainability Fund. Six projects were approved for funding in November 2010. Of the remaining 24 proposals, the Student Advisory Subcommittee recommended three for funding:

- Sphagnum Moss Treatment for Indoor Pools: $64,717.67 to support the sphagnum moss water treatment technology project being led by Campus Recreation Services (CRS). Specifically, funding is being provided to support the installation of a new water treatment system at the 2 indoor pools involving sphagnum moss that will work along with state-mandated chemical treatment systems. The enhanced system will reduce water and chemical expenses paid by CRS. Since the payback period is calculated to be 1.3 years, CRS has agreed to spend the initial savings to install the new technology at the 2 outdoor pools and fund other CRC sustainability projects. Based on information provided, installation at the 2 outdoor pools will require approximately 2 ½ years (8 month period required to install the technology at the indoor pools, a 1.3 year payback period and approximately 6 months to install the technology at the outdoor pools).
- UM Student Teaching Garden (now called the Public Health Garden): $15,460 to support the UM Student Teaching Garden project being led by the Institute of Applied Agriculture. Specifically, the requested funding is being provided to support the acquisition of materials as outlined in the revised proposal. The garden is to be located between the School of Public Health and the Epply Recreation Center.
- Recycled Costumes and Sets for MFA Thesis Concert: $1,500 to support the Recycled Costumes and Set project for the MFA thesis concert. Specifically, the requested funding is being provided

so MFA candidates in Dance may use renewable, recycled, and reused materials in the creation of all sets and costumes for their thesis concerts through 2013. The goal of this project is to boost the production shops' use of recycled materials and to introduce sustainability measures into the School of Theatre, Dance, and Performing Arts curricula.

Of the $148,050 available in the University Sustainability Fund for FY 2011, the Council allocated $135,127.67 to fund nine projects. The Student Advisory Subcommittee will recommend how to use the remaining $12,922.33 by the March 31, 2011 Council meeting.

- Scott Lupin recommended using some of the remaining funding to promote the projects that were funded this year. Outdoor signage at each project would be a great way of bringing attention to the project and the fact it received a grant from the University Sustainability Fund. Facilities Council must weigh in on the design and location of signage. A map could also be a good way of showcasing these projects.

ACTION: The Council unanimously approved all three proposals. The Office of Sustainability will develop a website to promote these projects and investigate options for creating on-site signage that would receive Facilities Council approval.

Sustainability Minor

Mahlon Straszheim reported that the committee charged with designing the sustainability minor met twice. The committee should have the structure of the minor worked out by the end of the semester and then solicit feedback from colleges. January 2012 is the proposed launch date of the minor. The undergraduate student representative on the committee, Michelle Kim, will host a focus group to hear what students want out of the minor before the next committee meeting.

USM Strategic Plan

Ann Wylie reported that USM recently released its strategic plan, which calls for increasing student enrollment by about 4000 students this decade. This growth has implications on the University's Climate Action Plan. We should consider the challenge of communicating changes in the University's carbon footprint in the context of growth. Matthias Ruth mentioned that sustainability and climate change adaptation is a major focus of the USM Strategic Plan.

Project Sunburst

Susan Corry reported on the 631kW photovoltaic (solar power) system that will soon be installed on the roof of the Severn Building. The panels can withstand 90mph wind and 1.5 inch hail. 2,688 panels will be installed. This project was financed through a power purchase agreement – Washington Gas and Energy Services will own the solar renewable energy credits (SRECs) generated by this project for the first five years. The University will own the SRECs starting in year six.

Classroom Lighting Project

Susan Corry reported on a project to decrease energy consumption in classrooms. Facilities Management has received many questions about why lights are left on in unoccupied classrooms. This project will install occupancy sensors in all classrooms this summer – general purpose classrooms will be targeted first. Also, approximately 20% of these classrooms will be brought up to the new campus lighting standard during the renovations. The project will cost $600,000 up front and save $100,000 per year.

- The Council agreed that an information release needs to be prepared and distributed through academic departments to educate faculty about these changes.

Compostable Waste

Mary Ann Ottinger and Scott Lupin reported that the Beltsville Agricultural Research Center (BARC) is very interested in receiving our food waste. BARC is limited to research so UMD professor Stephanie Lansing is sponsoring a research project.

Faculty/Staff Giving

Ann Wylie spoke with Brodie Remington who agreed to add an option for faculty and staff to contribute to the University Sustainability Fund through the Faculty/Staff Giving Campaign.

Maryland Day Waste Reduction

Matthew Popkin presented President Loh with a letter about reducing waste at Maryland Day. Ann Wylie suggested he talk with the Maryland Day Steering Committee.

Recycling Rate

Scott Lupin reported that the campus achieved a 62% recycling rate in CY 2010. The campus goal is to achieve a 75% recycling rate by CY 2013.

Smart and Sustainable Campuses Conference

Scott Lupin mentioned that the Smart and Sustainable Campuses Conference will be hosted at UMUC on April 3-5. President Loh will provide the welcoming address. One of the conference plenary sessions will be about the Chesapeake Project. The University provided funding for 20 student scholarships to attend the conference.

Adjourn: 1:00pm

Appendix A

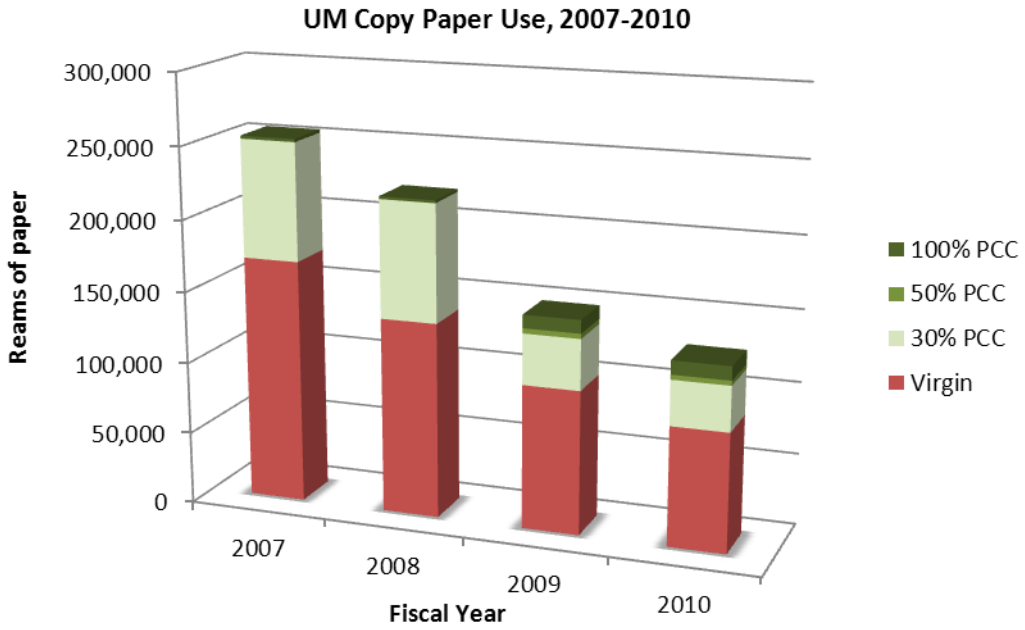
Environmental and Financial Savings of Decreasing Copy Paper Use, 2007-2010

Prepared by the Office of Sustainability

The Office of Sustainability recommends sharing this information with the campus community

Purchasing Trends and Financial Savings

Between FY 2007 and FY 2010, University departments decreased their use of copy paper by an astonishing 50%, saving $506,884 in three years! During that time, use of paper made from virgin tree fiber decreased 51% while use of paper made from 100% recycled post-consumer content (PCC) increased 460%.



Environmental Savings

The manufacturing, shipping, and disposal of paper have significant environmental impacts, especially for paper made from virgin tree fiber. By cutting in half the total amount of paper used on campus and increasing the use of paper made from recycled content, University of Maryland departments have collectively:

- **Saved 7,835 trees from being cut down**
- **Prevented 1,832,839 pounds of greenhouse gas emissions, equivalent to taking 166 cars off the road**
- **Kept 21 truckloads of solid waste out of the landfill**
- **Conserved enough energy to power 103 homes**
- **Prevented nearly 7 million gallons (10 swimming pools) of wastewater sludge**

Environmental impact estimates were made using the Environmental Defense Fund Paper Calculator.

These savings are hard to see since almost all of these environmental impacts occur in communities outside of College Park. Still, your efforts to decrease paper use and purchase recycled paper have significantly reduced environmental impacts near and far. *Our planet thanks you!*

Reduce Impacts Even More!

Please continue to find ways of reducing environmental impacts. Strategies include utilizing electronic file sharing/storage, shrinking default printer margins to 0.5 inches for documents that must be printed, printing on both sides of paper, reusing paper that still has a clean side, and purchasing paper made from recycled content.

Appendix A (continued)
Environmental and Financial Costs of the University of Maryland's Use of Copy Paper

Prepared by the Office of Sustainability

The Department of Procurement and Supply holds contracts with OfficeMax and Rudolph's (local minority-owned business) for the University's purchase of office supplies including copy paper. Between FY 2007 and FY 2010, the University decreased its use of copy paper by an astonishing 50%, saving $506,884 in three years.

Actual UM Copy Paper Purchases (OfficeMax and Rudolph combined sales)

FY	**Virgin**	Reams	**30% PCC**	Reams	**50% PCC**	Reams	**100% PCC**	Reams	**TOTAL**	Reams
2007	$ 481,177	170,206	$269,630	82,208	$ 75	10	$ 8,152	2,096	$759,034	254,520
2008	$ 439,852	136,246	$308,580	81,880	$ 754	100	$ 7,101	1,825	$756,287	220,051
2009	$ 352,363	100,227	$132,341	35,332	$14,395	3,559	$ 46,128	9,231	$545,227	148,349
2010	$ 283,449	82,993	$117,902	31,362	$16,006	3,366	$ 51,347	9,640	$468,704	127,361
Avg. Price/Ream:	$ 3.42		$ 3.76		$ 4.76		$ 5.33		$ 3.68	

Min-Max Price/Ream	Virgin	30%PCC	50%PCC	100%PCC
2010 OfficeMax:	**$3.13**-24.70	**$3.45**-25.34	**$3.80**-12.65	**$4.01**-29.08
2010 Rudolph's:	**$3.18**-26.26	**$3.39**-3.39	N/A	N/A

In FY 2010, 60% of copy paper purchased at UM was made from virgin tree-fiber, 25% contained 30% recycled post-consumer content (PCC), 3% contained 50% PCC, and 11% was made from 100% PCC. There are large environmental impacts associated with paper but impacts are significantly reduced with higher PCC.

Lifecycle Assessment of the UM's Use of Copy Paper

	Actual 2010 Impacts	**Impacts if Min. 30% PCC**	**Impacts if All 100% PCC**
Greenhouse Gases	1,745,427 lbs CO_2-e.	9% decrease	**38% decrease**
Solid Waste	570,470 pounds	8% decrease	**34% decrease**
Wastewater	6,460,632 gallons	11% decrease	**49% decrease**
Net Energy	9,094 million BTU's	6% decrease	**24% decrease**
Wood Use	985 tons	23% decrease	**100% decrease**
Financial Cost	$468,704	$28,554 increase* **$29,593 *decrease*****	$209,678 increase* $42,014 increase**

* Using average prices from FY 2010 purchases

** If all copy paper were purchased at the lowest price available

Environmental impact estimates were made using the Environmental Defense Fund Paper Calculator.

The University purchased more than 127,000 reams (318 tons) of copy paper in FY 2010. Replacing this amount of paper with 100% recycled post-consumer content paper will:

- **Save 6,897 trees from being cut down**
- **Prevent 655,755 pounds of greenhouse gas emissions, equivalent to taking 60 cars off the road**
- **Keep 7 truckloads of solid waste out of the landfill**
- **Conserve enough energy to power 24 homes**
- **Prevent more than 3 million gallons (5 swimming pools) of wastewater sludge**

UM could follow the lead of Drew University, Evergreen State University, Hampshire College, Princeton University, and the University of Vermont by creating a policy specifying that the University of Maryland will only purchase copy paper made from 100% post-consumer content. Compared to FY 2010 purchases, implementing this policy would cost the University $42,000**- 210,000*; however, the policy would be cost-neutral if the campus achieves an 8%**- 31%* reduction in paper use.

Tap vs. Bottled Water at UMD
The Water Perspective

Bruce R. James
Department of Environmental Science and Technology

Allen P. Davis
Department of Civil and Environmental Engineering

November 30, 2010

Water Supply

- University of Maryland gets water from WSSC
- 2 water filtration plants
  - Potomac—from Potomac River
  - Patuxent—from Patuxent River
- UMD is about 50/50 mix of these waters

Water Supply Sources

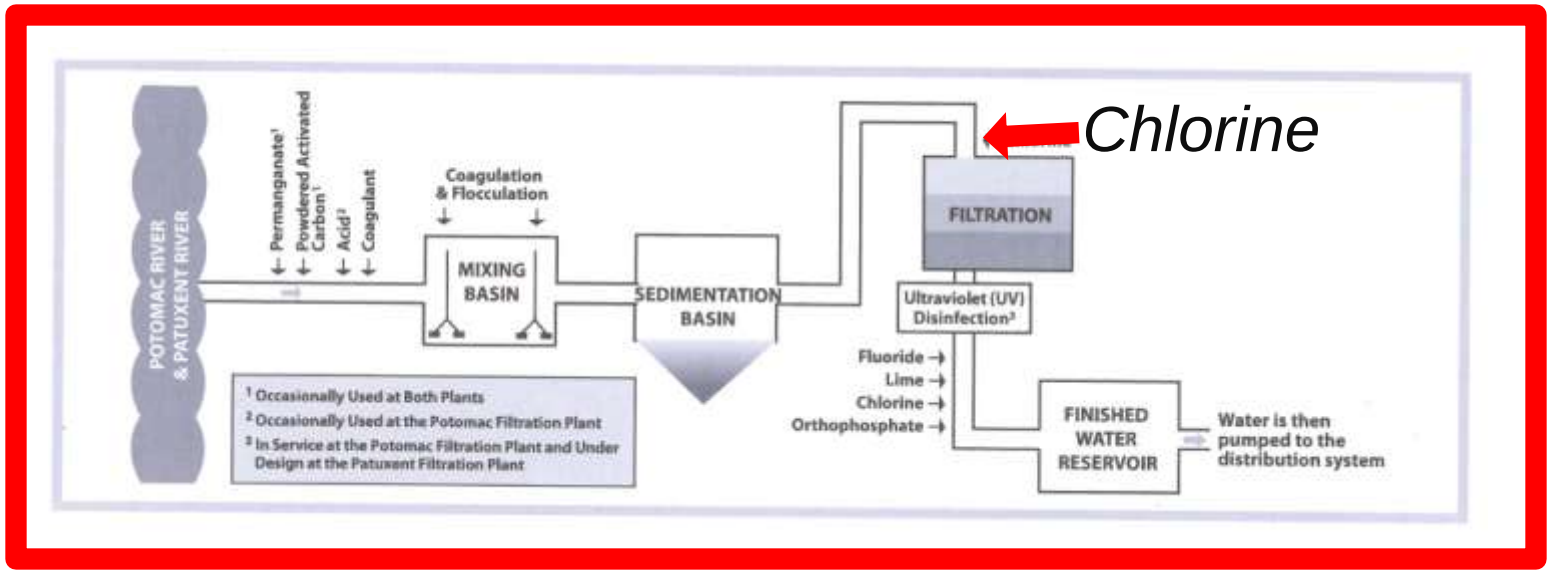
Water Treatment & Quality

- **ALL municipal water is treated to drinking water quality, as defined by the Safe Drinking Water Act**
  - **Fountains, tap, fire hydrants, toilets, laundry, all same drinking water**
  - **SDWA administered by USEPA**

Water Treatment Process

- **ALL WSSC drinking water is filtered and disinfected before sent into distribution system.**

Water Treatment Process by WSSC



Chem. Trt. → Mixing → Sedimentation → Filter → UV

Water Chemical Analyses

- **SDWA requires analysis of over 100 contaminants in drinking water**
  - **Pathogen indicators**
  - **Heavy metals**
  - **Pesticides and organic chemicals**
  - **Radionuclides**

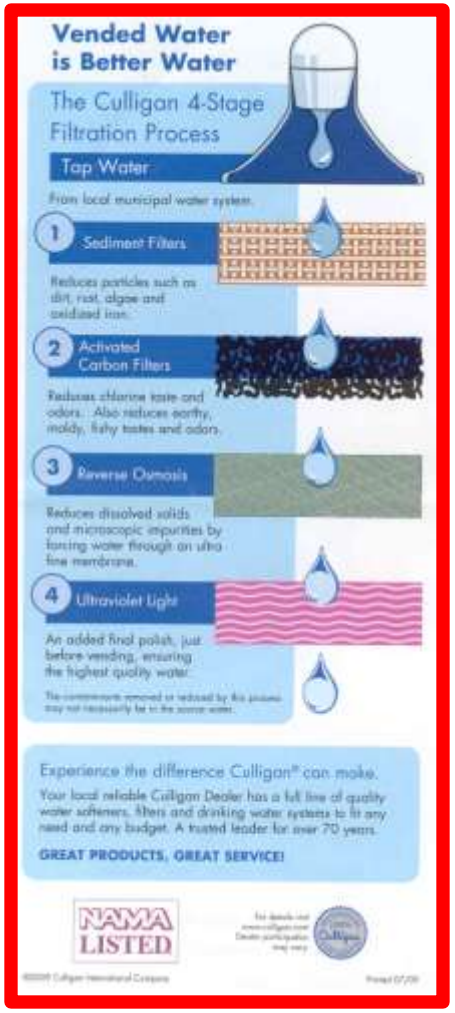
Water Costs

- **Tap Water:**
  - **$0.00025 per 16-oz bottle**
  - **~$1-3 per 1000 gallons**
- **Deer Park (bulk)**
  - **$0.14 per 16-oz bottle**
  - **$1100 per 1000 gallons**

Bottled Water

- **Bottled water is regulated as a food by Food & Drug Administration**
  - **Emphasis is on nutrient content (none for bottled water)**

Culligan "Filtered" Water (similar for Aquafina)



Tap water

Sediment filters

Activated charcoal

Reverse Osmosis

UV light

Bottom Line on Water Sources

- **Bottled water is ~ 1000X more expensive than "tap water" that is not bottled**
- **Bottled water has little residual chlorine**
- **Bottled water tastes different from tap water**
- **Bottled water is stored and is not flowing**
- **Impurities from plastics could be present (plasticizers, e.g., phthalates)**

Water Use

- **Water for drinking & cooking is a very small fraction of total water use on campus.**
- **Typical community <1% used for drinking, ~3-6% for cooking.**
- **Bottled water issue is a solid waste issue, not a water issue.**